

Statistical appendix. The labour market by education and occupation to 1998

Citation for published version (APA):

Researchcentrum voor Onderwijs en Arbeidsmarkt, ROA. (1993). Statistical appendix. The labour market by education and occupation to 1998. (ROA Reports; No. ROA-R-1993/10BE). Maastricht: Researchcentrum voor Onderwijs en Arbeidsmarkt, Faculteit der Economische Wetenschappen.

Document status and date:

Published: 01/01/1993

Document Version:

Publisher's PDF, also known as Version of record

Please check the document version of this publication:

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

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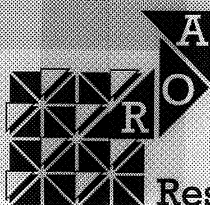
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Statistical Appendix

The Labour Market by Education and Occupation to 1998

52 GPMT HADBE REDITS?



Research Centre for Education and the Labour Market

STATISTICAL APPENDIX
THE LABOUR MARKET BY EDUCATION AND OCCUPATION TO 1998

ROA-R-1993/10BE

RESEARCH CENTRE FOR EDUCATION AND THE LABOUR MARKET

**Faculty of Economics and Business Administration
University of Limburg**

Maastricht, December 1993

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CIP-GEGEVENS KONINKLIJKE BIBLIOTHEEK, DEN HAAG

Labour

The labour market by education and occupation to 1998: statistical appendix / Research Centre for Education and the Labour Market ; [transl. from the Dutch]. - Maastricht : Research Centre for Education and the Labour Market, Rijksuniversiteit Limburg, Faculty of Economics and Business Administration. - ([Report]/ Research Centre for Education and the Labour Market, ISSN 0922-8098 ; ROA-R-1993/10BE)

Vert. van: De arbeidsmarkt naar opleiding en beroep tot 1998: statistische bijlage. - 1994. - (Rapport / Researchcentrum voor Onderwijs en Arbeidsmarkt = ISSN 0922-8098 ; ROA-R-1993/10B).

ISBN 90-5321-124-1

Trefw.: arbeidsmarkt ; Nederland ; toekomst / onderwijs en arbeidsmarkt ; Nederland ; toekomst.

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1. EXPLANATION OF THE STRUCTURE OF THE STATISTICAL APPENDIX

The primary purpose of this *statistical appendix* is to give an overall view of the labour market information which underlies ROA's report *The Labour Market by Education and Occupation to 1998* (ROA-R-1993/10E). This report is published once every two years, while the appendix is updated annually. It presents figures and tables which provide information for 93 occupational classes and 49 types of education as regards:

- the current labour market situation;
- a number of risk indicators;
- labour market forecasts.

This up-date contains not only new labour market data and indicators but also new labour market forecasts.

The classification of the occupational classes and training types is based on a system developed by ROA, which derives from the classifications used by the Central Bureau of Statistics (CBS). In ROA's occupational classification, each occupational class is represented by a 4-figure code. The first figure relates to the *occupational sector*. In assigning occupational classes to the various sectors, the educational profile of the occupational class is the decisive factor. These occupational sectors are printed in bold in the tables of occupational information. The second digit indicates the line of business or economic sector in which people from this occupational class are employed. The third digit indicates the (median) educational level of the workers in the occupational class and the fourth digit serves to differentiate particular occupational classes. The classification of types of education, which is based on the Standard Educational Classification of the CBS, consists of one component indicating the level (the first digit) and another indicating the subject area (the second and third digits). The educational level is always printed in bold in the tables containing information regarding education.

The majority of the tables with current labour market information and indicators are based on the Labour Force Survey (EBB) of the CBS. For occupations, the information relates to the period 1988-1992, for types of education to the period 1990-1992. The information is based on a new definition of the working population, according to which only those who work at least 12 hours per week are counted as employed.

In this third edition of the *Statistical Appendix*,¹ the system of naming the occupational classes has been improved and 'Lower Vocational Education' has been replaced by 'Preparatory Vocational Education'. A number of tables are presented differently than in the previous edition:

- This year a column has been added to the tables of forecasts, for the average annual rate of growth. This simplifies comparisons with other forecasts.
- The table for the occupational classes giving the percentages of those working as employees, and the percentages who are self-employed or work as partners, which was introduced in the previous *statistical appendix*, has unfortunately had to be dropped in this

1. The previous two appendices were not published in English.

edition because the current data is not available.

- In the information regarding types of education, the table with the current unemployment rates per type of education has been omitted because the raw data was not available.
- To make the report read more easily, the brief characterizations of the employment situation per occupational class and the labour market prospects per type of education are less rigidly described in this edition. The characterization of unemployment which is included in the descriptions of each type of education derives from two school-leaver surveys, *RUBS* and the *Higher Vocational Education Monitor*. However no unemployment figures are available for Primary Education and University Education. The break-down of unemployment for each of the RBA regions has been omitted from this edition, because no current data is available.
- As for the occupational spread per type of education, the spread across occupational groups is presented, excluding under-utilization. This indicator shows the opportunities available to various types of education to switch to occupational groups at a corresponding or higher function level. Therefore the table of the occupational spread including under-utilization has been dropped. It was felt that the latter indicator added little information. Moreover, this measure of spread was based on occupational classes (a higher level of aggregation), which made comparisons difficult.
- Table 5, in which the vacancy rate and the percentage of hard-to-fill vacancies per occupational class are shown, is new.

As in the previous editions of the *Statistical Appendix*, publication restrictions imposed by the CBS mean that it is not possible to provide information on a number of small occupational classes:

- 2031 Engineers of agriculture and agricultural technology;
- 3712 Gas and electricity supply technicians;
- 4111 Fishermen and shellfish farmers;
- 5034 Veterinary surgeons.

In contrast to previous years, the occupational class 'Intermediate electrical engineers' (code 3722) now comes over the threshold for publication and so does not appear in the list above.

Two types of education have been dropped this year: 'Higher Vocational Education, Hotel and Catering' (code 583) and 'Higher Vocational Education, Theology' (code 516). As in last year's 'Statistische bijlage, Actualisering 1992' (Statistical Appendix, Up-date for 1992), information is provided on 'University Education, Pharmacy' (code 652).

By basing the data as regards the current labour market situation on averages over several years, the threshold for publication can be lower. As a result, the tables contain more information. This is especially so for the tables with many sub-divisions, such as those for the educational levels per occupational class. In a table of current labour market information, where the figure for a given category is under the publication threshold this is indicated by a '.'. In the vacancy rates in table 5, an 'x' has been used to indicate that the required figures are not available. Finally, in the tables of forecasts and in table 5, a '-' has been used to indicate that no change is expected in the relevant element.

2. EXPLANATION OF THE FIGURES AND TABLES

For both occupations and types of education, the presentation begins with figures in which the information from a number of tables is graphically displayed at a higher level of aggregation (10 occupational sectors and 7 educational levels, respectively). Graphs of the occupational sectors show the employment offered per sector and the age distribution of the workforce in the period 1988-1992 and the numbers of job openings for the period 1993-1998. Graphs for the various educational levels give a breakdown of employment in the period 1990-1992, the rates of under-utilization per educational level in 1992, and the expected numbers of job openings and school-leavers and the indicator for the expected labour market prospects for the period 1993-1998. The graphs are accompanied by a large number of tables relating to current labour market information, indicators and forecasts.

The *current labour market information* for the diverse occupational classes gives the numbers of workers in the class, its importance as a percentage of the workforce, and breakdowns of the workforce per class by gender, age, hours per week worked and educational level, along with the vacancy rate (i.e., the number of unfilled vacancies divided by the number of workers). Likewise, the information for the types of education includes the absolute numbers and percentages of workers per education type, and breakdowns by gender.

The *labour market indicators* are important elements of the analysis of the risk position of occupational classes and types of education. The indicator of cyclical sensitivity for each occupational class indicates the degree to which the level of employment in an occupational class is sensitive to movements in the trade cycle, measured over a longer period. The dispersion indicators, such as the opportunities available to an occupational class to switch to other business sectors, show the degree to which those working in an occupational class are dependent for their employment on one business sector. The labour market indicators can be seen as supplementing the forecasts in the sense of providing information on possible future unemployment risks and opportunities of switching to other business sectors. In fact, good labour market prospects in combination with high cyclical sensitivity and low dispersion over the business sectors would indicate that, although the prospects are good, changes in employment levels are likely to be rather sensitive to any fluctuations in the trade cycle, and employment opportunities will moreover be very dependent on developments in just a few specific business sectors.

For each of the types of education, both the opportunities of switching to other business sectors and the opportunities of switching to other occupational groups at an equal or higher function level are reported. The degree of under-utilization (i.e., over-education) is also delineated. Current unemployment figures for each type of education are, unfortunately, not available. Under-utilization and unemployment data, if that was available, would supplement each other in delineating the current labour market position of educational types: the unemployment rate gives an indication of the existence of quantitative matching problems between the demand for, and the supply of, a given type of education, while the degree of

under-utilization supplements this with information on qualitative matching problems. The lack of unemployment data differentiated by types of education hampers the analysis in the respect.

The *characterization of the expected employment prospects for the various occupational classes* (table 13) is preceded by tables containing the various elements of this characterization. The characterizations are essentially based on the expected job openings, as a percentage of employment, supplemented by the indicators for the cyclical sensitivity of employment and the opportunities of switching to other business sectors which have just been described. The job openings in turn are made up from the expansion demand (the changes in employment levels) and the replacement demand: the job openings which arise as a result of retirements etc. (tables 9 to 12). In contrast to the previous editions of the statistical appendix, this time the job openings and indicators are not enumerated exhaustively, but rather the most important factors which have determined the characterization of employment prospects for that particular occupational class are mentioned.

The *characterization of the expected labour market situation for types of education* (table 25) is based on matching the expected developments on the supply and the demand sides of the labour market with each other (table 24), supplemented by indicators of the opportunities of switching to other business sectors, and to other occupational groups, and the unemployment rate among school-leavers.²

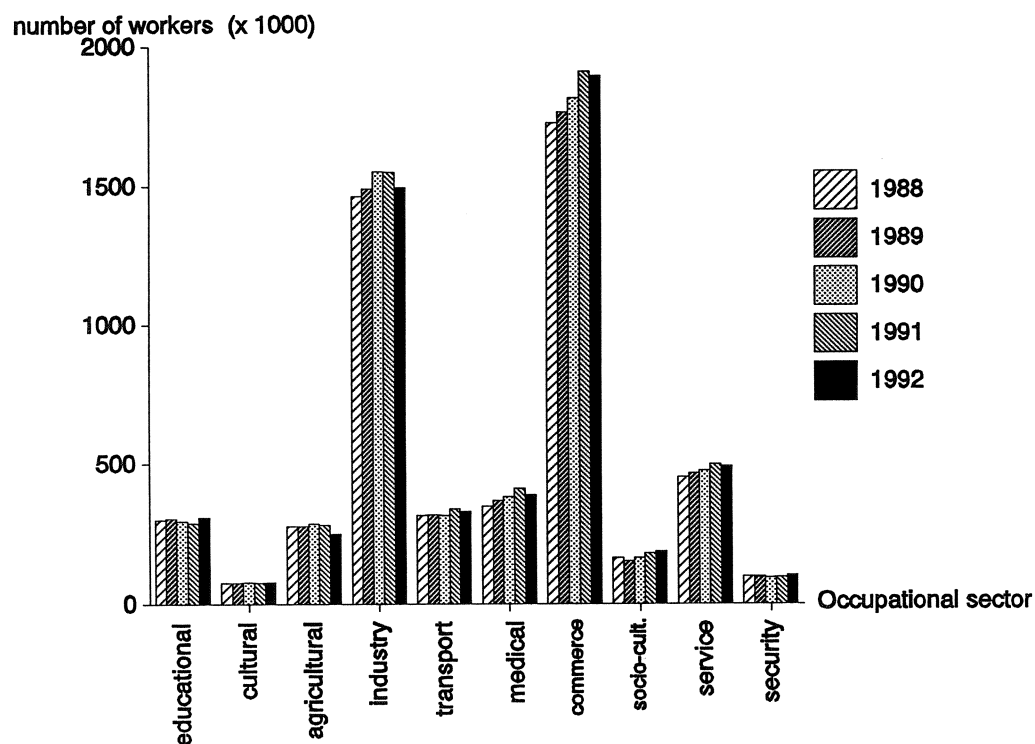
The expected labour supply in the period 1993-1998 is made up of the inferred³ short-term unemployment rate at the beginning of the forecast period and the expected flow of school-leavers entering the labour market during the period. The demand side relates to job openings during the forecast period and consists of the expansion and replacement demand, both expressed as percentages of the relevant workforce. The various components of the demand and supply forecasts are showing in tables 19 to 23.

Finally, it should be noted that the labour market data, indicators and forecasts all relate to a particular occupational class or a given type of education. The characterization of a specific occupation or a specific subject area may be significantly different to the characterization for the occupational class (or the type of education) as a whole.

-
2. Unfortunately no unemployment rates are available for 'Primary Education' and the types of education within University Education.
 3. For an explanation, see the ROA working document *Methodiek van het informatiesysteem onderwijs-arbeidsmarkt 1993*, ROA-W-1993/3.

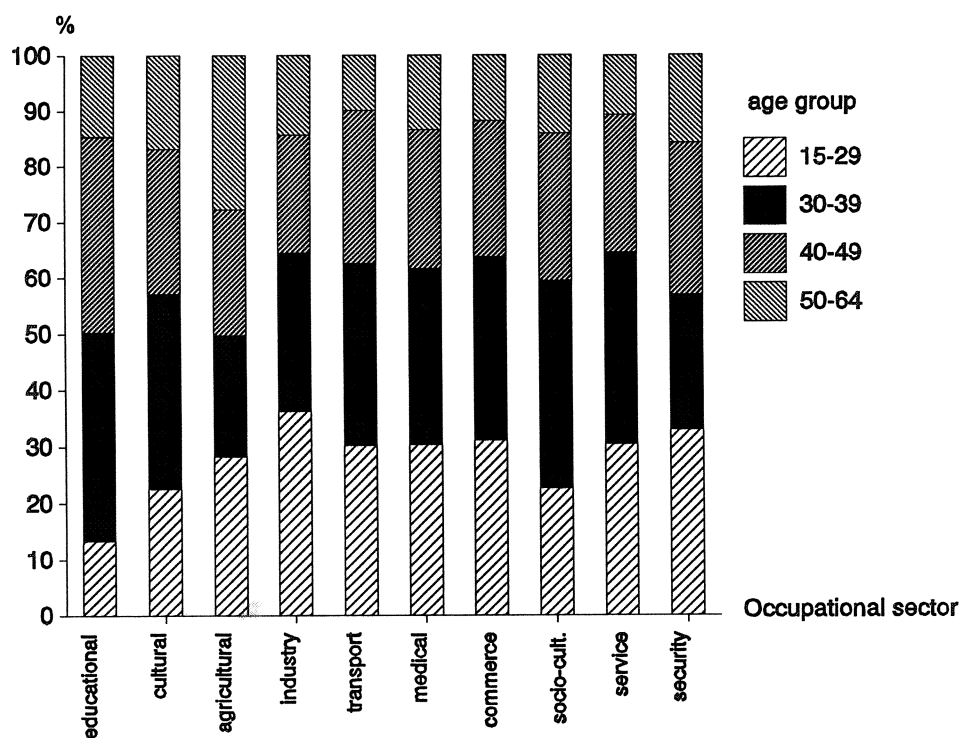
INFORMATION ON OCCUPATIONS

Figure 1. Numbers working per occupational sector, 1988-1992



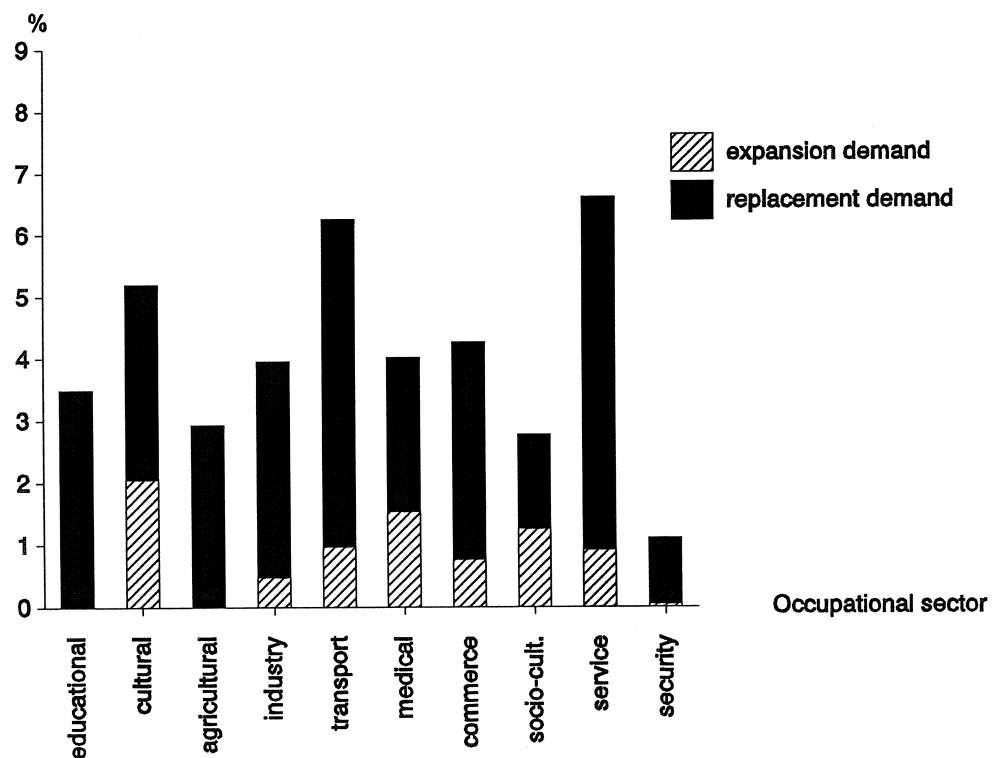
Source: ROA

Figure 2. Age distribution per occupational sector, average 1988-1992



Source: ROA

Figure 3. Expected number of job openings divided into expansion and replacement demand per occupational sector, 1993-1998



Source: ROA

Table 1. Numbers working per occupational class, average 1988-1992

ROA code	occupational class	number	%	trend
0	EDUCATIONAL OCCUPATIONS			
0131	Primary and special education teachers	100,000	1.8	decreasing
0132	Secondary and tertiary education teachers	150,000	2.7	decreasing
0133	School principals and other higher educational professions	40,000	0.7	constant
0221	Trainers, sports officials and sports professionals	10,000	0.2	decreasing
1	CULTURAL OCCUPATIONS			
1131	Translators and other literary professions	6,000	0.1	decreasing
1231	Pastoral vocations	10,000	0.2	decreasing
1321	Photographers, film-makers, designers, and window-dressers	33,000	0.6	constant
1331	Visual and performing artists	29,000	0.5	constant
2	AGRICULTURAL OCCUPATIONS			
2011	Agricultural workers	140,000	2.5	constant
2012	Farmers	133,000	2.4	decreasing
3	TECHNICAL AND INDUSTRIAL OCCUPATIONS			
3011	Forklift drivers	23,000	0.4	increasing
3012	Construction machine operators	31,000	0.5	decreasing
3021	Directors, managers and supervisors in manufacturing	330,000	5.8	constant
3022	Technical and medical representatives	8,000	0.1	increasing
3023	Technical draughtsmen	36,000	0.6	decreasing
3024	Technical analysts and technical assistants	31,000	0.5	constant
3031	Scientific researchers and engineering specialists	51,000	0.9	decreasing
3111	Food and beverage processors	45,000	0.8	constant
3112	Bakers and bakery personnel	24,000	0.4	constant
3211	Textile production workers	11,000	0.2	decreasing
3212	Upholsterers, shoemakers and leatherworkers	20,000	0.3	decreasing
3213	Clothing, textile and fur product makers	21,000	0.4	decreasing
3311	Wood, paper and cardboard product workers	12,000	0.2	constant
3312	Carpenters and woodworkers	119,000	2.1	constant
3411	Printers and lower printing industry occupations	54,000	0.9	constant
3511	Chemical process workers	28,000	0.5	constant
3611	Miners, drilling hands, and smelter workers	14,000	0.2	constant
3612	Metal-processing machine operators	39,000	0.7	constant
3613	Welders and engineering workers	59,000	1.0	constant
3614	Lathe operators, sheet-metal workers, tool and model makers	74,000	1.3	constant
3615	Machinery mechanics and bicycle and instrument makers	67,000	1.2	constant
3621	Automobile and (motor) cycle mechanics	46,000	0.8	decreasing
3622	Intermediate mechanical engineers and marine engineers	15,000	0.3	constant
3631	Higher mechanical engineers	14,000	0.2	decreasing
3711	Electrical product assembly workers and quality controllers	24,000	0.4	decreasing
3721	Electricians and electrical and telecommunication servicemen	99,000	1.8	constant
3722	Intermediate electrical engineers	7,000	0.1	constant
3731	Higher electrical engineers	18,000	0.3	decreasing
3811	Building materials, glass, and ceramic production workers	40,000	0.7	constant
3911	Bricklayers, tilers, paving workers, and plasterers	47,000	0.8	decreasing

Table 1. Numbers working per occupational class, average 1988-1992 (continued)

ROA code	occupational class	number	%	trend
3912	Roofing, concrete, and insulation workers and glaziers	23,000	0.4	decreasing
3913	Painters (not spray painters)	33,000	0.6	constant
3914	Plumbers	45,000	0.8	increasing
3915	Construction workers, road construction and sanitation workers	76,000	1.3	increasing
3921	Surveyors, quantity surveyors, work clerks, construction technicians	24,000	0.4	increasing
3931	Architects, civil engineers and city planners	29,000	0.5	constant
4	TRANSPORT OCCUPATIONS			
4011	Freight handlers, packers, and packaging workers	116,000	2.1	constant
4112	Sailors, deckhands and engine-room workers	5,000	0.1	decreasing
4121	Ship's officers and marine inspectors	8,000	0.1	decreasing
4211	Drivers and conductors	167,000	3.0	constant
4321	Pilots, flight engineers, transport supervisors and inspectors	29,000	0.5	decreasing
5	MEDICAL AND PARAMEDICAL OCCUPATIONS			
5021	Registered nurses, district nurses and midwives	115,000	2.0	constant
5022	Student nurses and home nursing personnel	103,000	1.8	increasing
5023	Doctor's, dentist's, and veterinary assistants	21,000	0.4	constant
5024	Pharmacy assistants, opticians and orthopaedists	15,000	0.3	constant
5025	EEC technicians, speech therapists and other paramedical occupations	24,000	0.4	constant
5031	Physiotherapists and occupational therapists	36,000	0.6	constant
5032	Radiological, medical and biological laboratory professionals	26,000	0.5	increasing
5033	Physicians, medical specialists, pharmacists	35,000	0.6	increasing
5035	Dentists and dental specialists	6,000	0.1	decreasing
6	COMMERCIAL AND ADMINISTRATIVE OCCUPATIONS			
6031	Senior finance and sales managers	97,000	1.7	increasing
6111	Mail clerks and postal workers	41,000	0.7	decreasing
6112	Datatypes and computer operators	15,000	0.3	decreasing
6121	Administrative supervisors	39,000	0.7	constant
6122	Secretaries and typists	141,000	2.5	decreasing
6123	Library assistants	21,000	0.4	decreasing
6124	Book-keepers, bank and tax department employees	329,000	5.8	constant
6125	Purchasing and sales clerks	319,000	5.7	constant
6126	Telephonists, receptionists and pollsters	75,000	1.3	constant
6131	System analysts, programmers and system supervisors	111,000	2.0	increasing
6132	Accountants and economists	51,000	0.9	constant
6211	Sales assistants	257,000	4.6	constant
6221	Shopkeepers, retail and wholesale staff	138,000	2.4	constant
6222	Commercial representatives, sales managers and brokers	134,000	2.4	constant
6331	Senior civil servants	28,000	0.5	increasing
6332	Legal professionals	29,000	0.5	constant
7	SOCIO-CULTURAL OCCUPATIONS			
7021	Journalists, authors and announcers	32,000	0.6	increasing
7031	Librarians, archivists and curators	14,000	0.2	decreasing
7032	Personnel officers, vocational advisors and employment agents	25,000	0.4	increasing

Table 1. Numbers working per occupational class, average 1988-1992 (continued)

ROA code	occupational class	number	%	trend
7033	Community workers and probation officers	60,000	1.1	increasing
7034	Social scientists	22,000	0.4	constant
7035	Information service and media specialists	17,000	0.3	decreasing
8	HOTEL, CATERING AND SERVICE OCCUPATIONS			
8111	Cooks, waiters and kitchen workers	124,000	2.2	constant
8121	Hotel and catering owners and supervisors	57,000	1.0	constant
8211	Porters, cleaners and domestics	149,000	2.6	constant
8212	Geriatric help, kindergarten staff and nannies	113,000	2.0	constant
8221	Hairdressers and beauticians	33,000	0.6	increasing
9	PUBLIC SECURITY AND SAFETY OCCUPATIONS			
9121	Police, fire and security officers	58,000	1.0	constant
9221	Military professionals	39,000	0.7	decreasing
	Total	5,643,000		

Source: CBS/ROA

Table 2. Numbers working per occupational class by gender, average 1988-1992

ROA code	occupational class	men	women	total
0	EDUCATIONAL OCCUPATIONS			
0131	Primary and special education teachers	35,000	65,000	100,000
0132	Secondary and tertiary education teachers	99,000	51,000	150,000
0133	School principals and other higher educational professions	29,000	11,000	40,000
0221	Trainers, sports officials and sports professionals	6,000	4,000	10,000
1	CULTURAL OCCUPATIONS			
1131	Translators and other literary professions	2,000	4,000	6,000
1231	Pastoral vocations	8,000	2,000	10,000
1321	Photographers, film-makers, designers, and window-dressers	21,000	12,000	33,000
1331	Visual and performing artists	16,000	13,000	29,000
2	AGRICULTURAL OCCUPATIONS			
2011	Agricultural workers	94,000	46,000	140,000
2012	Farmers	122,000	11,000	133,000
3	TECHNICAL AND INDUSTRIAL OCCUPATIONS			
3011	Forklift drivers	23,000	.	23,000
3012	Construction machine operators	31,000	.	31,000
3021	Directors, managers and supervisors in manufacturing	305,000	25,000	330,000
3022	Technical and medical representatives	7,000	.	8,000
3023	Technical draughtsmen	34,000	2,000	36,000
3024	Technical analysts and technical assistants	23,000	8,000	31,000
3031	Scientific researchers and engineering specialists	45,000	6,000	51,000
3111	Food and beverage processors	37,000	8,000	45,000
3112	Bakers and bakery personnel	22,000	2,000	24,000
3211	Textile production workers	8,000	3,000	11,000
3212	Upholsterers, shoemakers and leatherworkers	14,000	6,000	20,000
3213	Clothing, textile and fur product makers	4,000	17,000	21,000
3311	Wood, paper and cardboard product workers	12,000	.	12,000
3312	Carpenters and woodworkers	117,000	2,000	119,000
3411	Printers and lower printing industry occupations	43,000	11,000	54,000
3511	Chemical process workers	26,000	2,000	28,000
3611	Miners, drilling hands, and smelter workers	14,000	.	14,000
3612	Metal-processing machine operators	35,000	4,000	39,000
3613	Welders and engineering workers	57,000	2,000	59,000
3614	Lathe operators, sheet-metal workers, tool and model makers	73,000	.	74,000
3615	Machinery mechanics and bicycle and instrument makers	65,000	2,000	67,000
3621	Automobile and (motor) cycle mechanics	46,000	.	46,000
3622	Intermediate mechanical engineers and marine engineers	15,000	.	15,000
3631	Higher mechanical engineers	14,000	.	14,000
3711	Electrical product assembly workers and quality controllers	16,000	8,000	24,000
3721	Electricians and electrical and telecommunication servicemen	96,000	3,000	99,000
3722	Intermediate electrical engineers	7,000	.	7,000
3731	Higher electrical engineers	18,000	.	18,000
3811	Building materials, glass, and ceramic production workers	36,000	4,000	40,000
3911	Bricklayers, tilers, paving workers, and plasterers	47,000	.	47,000

Table 2. Numbers working per occupational class by gender, average 1988-1992 (continued)

ROA code	occupational class	men	women	total
3912	Roofing, concrete, and insulation workers and glaziers	23,000	.	23,000
3913	Painters (not spray painters)	33,000	.	33,000
3914	Plumbers	45,000	.	45,000
3915	Construction workers, road construction and sanitation workers	71,000	5,000	76,000
3921	Surveyors, quantity surveyors, work clerks, construction technicians	24,000	.	24,000
3931	Architects, civil engineers and city planners	27,000	2,000	29,000
4	TRANSPORT OCCUPATIONS			
4011	Freight handlers, packers, and packaging workers	83,000	33,000	116,000
4112	Sailors, deckhands and engine-room workers	5,000	.	5,000
4121	Ship's officers and marine inspectors	8,000	.	8,000
4211	Drivers and conductors	160,000	7,000	167,000
4321	Pilots, flight engineers, transport supervisors and inspectors	28,000	.	29,000
5	MEDICAL AND PARAMEDICAL OCCUPATIONS			
5021	Registered nurses, district nurses and midwives	24,000	91,000	115,000
5022	Student nurses and home nursing personnel	13,000	90,000	103,000
5023	Doctor's, dentist's, and veterinary assistants	.	21,000	21,000
5024	Pharmacy assistants, opticians and orthopaedists	3,000	12,000	15,000
5025	EEC technicians, speech therapists and other paramedical occupations	6,000	18,000	24,000
5031	Physiotherapists and occupational therapists	12,000	24,000	36,000
5032	Radiological, medical and biological laboratory professionals	8,000	18,000	26,000
5033	Physicians, medical specialists, pharmacists	26,000	9,000	35,000
5035	Dentists and dental specialists	5,000	.	6,000
6	COMMERCIAL AND ADMINISTRATIVE OCCUPATIONS			
6031	Senior finance and sales managers	80,000	17,000	97,000
6111	Mail clerks and postal workers	33,000	8,000	41,000
6112	Datatypes and computer operators	6,000	9,000	15,000
6121	Administrative supervisors	28,000	11,000	39,000
6122	Secretaries and typists	3,000	138,000	141,000
6123	Library assistants	8,000	13,000	21,000
6124	Book-keepers, bank and tax department employees	154,000	175,000	329,000
6125	Purchasing and sales clerks	156,000	163,000	319,000
6126	Telephonists, receptionists and pollsters	16,000	59,000	75,000
6131	System analysts, programmers and system supervisors	98,000	13,000	111,000
6132	Accountants and economists	42,000	9,000	51,000
6211	Sales assistants	95,000	162,000	257,000
6221	Shopkeepers, retail and wholesale staff	109,000	29,000	138,000
6222	Commercial representatives, sales managers and brokers	109,000	25,000	134,000
6331	Senior civil servants	23,000	5,000	28,000
6332	Legal professionals	20,000	9,000	29,000
7	SOCIO-CULTURAL OCCUPATIONS			
7021	Journalists, authors and announcers	19,000	13,000	32,000
7031	Librarians, archivists and curators	6,000	8,000	14,000
7032	Personnel officers, vocational advisors and employment agents	13,000	12,000	25,000

Table 2. Numbers working per occupational class by gender, average 1988-1992 (continued)

ROA code	occupational class	men	women	total
7033	Community workers and probation officers	24,000	36,000	60,000
7034	Social scientists	10,000	12,000	22,000
7035	Information service and media specialists	12,000	5,000	17,000
8	HOTEL, CATERING AND SERVICE OCCUPATIONS			
8111	Cooks, waiters and kitchen workers	52,000	72,000	124,000
8121	Hotel and catering owners and supervisors	34,000	23,000	57,000
8211	Porters, cleaners and domestics	49,000	100,000	149,000
8212	Geriatric help, kindergarten staff and nannies	3,000	110,000	113,000
8221	Hairdressers and beauticians	6,000	27,000	33,000
9	PUBLIC SECURITY AND SAFETY OCCUPATIONS			
9121	Police, fire and security officers	53,000	5,000	58,000
9221	Military professionals	38,000	.	39,000
	Total	3,695,000	1,948,000	5,643,000

Source: CBS/ROA

Table 3. Age distribution per occupational class, average 1988-1992

ROA code	occupational class	15-29 %	cohort 30-39 %	40-49 %	50-64 %
0	EDUCATIONAL OCCUPATIONS				
0131	Primary and special education teachers	20	41	31	9
0132	Secondary and tertiary education teachers	9	36	38	17
0133	School principals and other higher educational professions	9	32	38	21
0221	Trainers, sports officials and sports professionals	37	32	21	.
1	CULTURAL OCCUPATIONS				
1131	Translators and other literary professions	.	42	.	.
1231	Pastoral vocations	.	28	28	44
1321	Photographers, film-makers, designers, and window-dressers	34	33	22	10
1331	Visual and performing artists	18	37	30	16
2	AGRICULTURAL OCCUPATIONS				
2011	Agricultural workers	41	21	20	18
2012	Farmers	15	22	25	37
3	TECHNICAL AND INDUSTRIAL OCCUPATIONS				
3011	Forklift drivers	40	27	22	11
3012	Construction machine operators	28	30	28	15
3021	Directors, managers and supervisors in manufacturing	12	29	36	23
3022	Technical and medical representatives	25	31	25	19
3023	Technical draughtsmen	40	30	20	10
3024	Technical analysts and technical assistants	40	26	19	15
3031	Scientific researchers and engineering specialists	25	36	24	15
3111	Food and beverage processors	48	25	17	10
3112	Bakers and bakery personnel	52	22	15	11
3211	Textile production workers	38	24	19	19
3212	Upholsterers, shoemakers and leatherworkers	40	20	23	18
3213	Clothing, textile and fur product makers	38	23	25	15
3311	Wood, paper and cardboard product workers	46	21	21	.
3312	Carpenters and woodworkers	33	29	25	13
3411	Printers and lower printing industry occupations	39	26	22	12
3511	Chemical process workers	34	30	23	13
3611	Miners, drilling hands, and smelter workers	39	29	21	.
3612	Metal-processing machine operators	40	26	21	13
3613	Welders and engineering workers	41	27	22	9
3614	Lathe operators, sheet-metal workers, tool and model makers	40	27	20	12
3615	Machinery mechanics and bicycle and instrument makers	32	31	22	15
3621	Automobile and (motor) cycle mechanics	47	27	17	10
3622	Intermediate mechanical engineers and marine engineers	29	25	29	18
3631	Higher mechanical engineers	21	34	28	17
3711	Electrical product assembly workers and quality controllers	44	25	21	10
3721	Electricians and electrical and telecommunication servicemen	43	27	20	10
3722	Intermediate electrical engineers	.	.	33	.
3731	Higher electrical engineers	23	37	23	17
3811	Building materials, glass, and ceramic production workers	46	26	17	12
3911	Bricklayers, tilers, paving workers, and plasterers	35	28	25	12

Table 3. Age distribution per occupational class, average 1988-1992 (continued)

ROA code	occupational class	15-29 %	cohort 30-39 %	40-49 %	50-64 %
3912	Roofing, concrete, and insulation workers and glaziers	40	31	20	9
3913	Painters (not spray painters)				
3914	Plumbers	34	31	22	13
3915	Construction workers, road construction and sanitation workers	37	25	23	15
3921	Surveyors, quantity surveyors, work clerks, construction technicians	22	33	26	20
3931	Architects, civil engineers and city planners	12	35	32	21
4	TRANSPORT OCCUPATIONS				
4011	Freight handlers, packers, and packaging workers	47	24	17	12
4112	Sailors, deckhands and engine-room workers	44	.	.	.
4121	Ship's officers and marine inspectors	.	.	38	25
4211	Drivers and conductors	27	31	28	14
4321	Pilots, flight engineers, transport supervisors and inspectors	16	30	32	21
5	MEDICAL AND PARAMEDICAL OCCUPATIONS				
5021	Registered nurses, district nurses and midwives	36	39	19	7
5022	Student nurses and home nursing personnel	59	28	11	2
5023	Doctor's, dentist's, and veterinary assistants	57	24	14	.
5024	Pharmacy assistants, opticians and orthopaedists	45	28	17	.
5025	EEC technicians, speech therapists and other paramedical occupations	32	28	26	15
5031	Physiotherapists and occupational therapists	31	42	20	7
5032	Radiological, medical and biological laboratory professionals	42	37	13	8
5033	Physicians, medical specialists, pharmacists	11	43	31	14
5035	Dentists and dental specialists	.	45	36	.
6	COMMERCIAL AND ADMINISTRATIVE OCCUPATIONS				
6031	Senior finance and sales managers	10	35	37	19
6111	Mail clerks and postal workers	30	31	25	15
6112	Datatypes and computer operators	47	30	17	.
6121	Administrative supervisors	16	38	31	16
6122	Secretaries and typists	45	28	19	8
6123	Library assistants	34	29	22	15
6124	Book-keepers, bank and tax department employees	43	28	19	10
6125	Purchasing and sales clerks	41	28	20	12
6126	Telephonists, receptionists and pollsters	42	26	21	10
6131	System analysts, programmers and system supervisors	35	41	19	5
6132	Accountants and economists	26	33	25	15
6211	Sales assistants	55	17	18	10
6221	Shopkeepers, retail and wholesale staff	15	26	33	26
6222	Commercial representatives, sales managers and brokers	30	29	26	15
6331	Senior civil servants	.	35	38	22
6332	Legal professionals	19	44	26	11
7	SOCIO-CULTURAL OCCUPATIONS				
7021	Journalists, authors and announcers	23	39	25	13
7031	Librarians, archivists and curators	21	36	25	18
7032	Personnel officers, vocational advisors and employment agents	30	36	24	10

Table 3. Age distribution per occupational class, average 1988-1992 (continued)

ROA code	occupational class	15-29	cohort 30-39	40-49	50-64
		%	%	%	%
7033	Community workers and probation officers	15	43	32	10
7034	Social scientists	20	44	27	9
7035	Information service and media specialists	35	32	21	12
8	HOTEL, CATERING AND SERVICE OCCUPATIONS				
8111	Cooks, waiters and kitchen workers	50	22	19	9
8121	Hotel and catering owners and supervisors	20	32	30	17
8211	Porters, cleaners and domestics	28	23	29	19
8212	Geriatric help, kindergarten staff and nannies	40	25	24	11
8221	Hairdressers and beauticians	60	16	16	7
9	PUBLIC SECURITY AND SAFETY OCCUPATIONS				
9121	Police, fire and security officers	28	41	21	10
9221	Military professionals	41	26	24	9
	Total	34	29	24	14

Source: CBS/ROA

Table 4. Number and percentage of workers who work less than 30 hours per week per occupational class, average 1988-1992

ROA code	occupational class	number	%
0	EDUCATIONAL OCCUPATIONS		
0131	Primary and special education teachers	29,000	29
0132	Secondary and tertiary education teachers	92,000	61
0133	School principals and other higher educational professions	8,000	20
0221	Trainers, sports officials and sports professionals	5,000	53
1	CULTURAL OCCUPATIONS		
1131	Translators and other literary professions	3,000	45
1231	Pastoral vocations	3,000	26
1321	Photographers, film-makers, designers, and window-dressers	6,000	18
1331	Visual and performing artists	14,000	47
2	AGRICULTURAL OCCUPATIONS		
2011	Agricultural workers	38,000	27
2012	Farmers	12,000	9
3	TECHNICAL AND INDUSTRIAL OCCUPATIONS		
3011	Forklift drivers	.	.
3012	Construction machine operators	.	.
3021	Directors, managers and supervisors in manufacturing	21,000	6
3022	Technical and medical representatives	.	.
3023	Technical draughtsmen	.	.
3024	Technical analysts and technical assistants	3,000	10
3031	Scientific researchers and engineering specialists	3,000	5
3111	Food and beverage processors	4,000	9
3112	Bakers and bakery personnel	2,000	9
3211	Textile production workers	.	.
3212	Upholsterers, shoemakers and leatherworkers	3,000	15
3213	Clothing, textile and fur product makers	8,000	39
3311	Wood, paper and cardboard product workers	.	.
3312	Carpenters and woodworkers	6,000	5
3411	Printers and lower printing industry occupations	5,000	9
3511	Chemical process workers	.	.
3611	Miners, drilling hands, and smelter workers	.	.
3612	Metal-processing machine operators	.	.
3613	Welders and engineering workers	2,000	3
3614	Lathe operators, sheet-metal workers, tool and model makers	3,000	3
3615	Machinery mechanics and bicycle and instrument makers	3,000	4
3621	Automobile and (motor) cycle mechanics	3,000	5
3622	Intermediate mechanical engineers and marine engineers	.	.
3631	Higher mechanical engineers	.	.
3711	Electrical product assembly workers and quality controllers	3,000	13
3721	Electricians and electrical and telecommunication servicemen	4,000	4
3722	Intermediate electrical engineers	.	.
3731	Higher electrical engineers	.	.
3811	Building materials, glass, and ceramic production workers	3,000	6
3911	Bricklayers, tilers, paving workers, and plasterers	2,000	4

Table 4. Number and percentage of workers who work less than 30 hours per week per occupational class, average 1988-1992 (continued)

ROA code	occupational class	number	%
3912	Roofing, concrete, and insulation workers and glaziers	.	.
3913	Painters (not spray painters)	.	.
3914	Plumbers	.	.
3915	Construction workers, road construction and sanitation workers	4,000	5
3921	Surveyors, quantity surveyors, work clerks, construction technicians	.	.
3931	Architects, civil engineers and city planners	2,000	7
4	TRANSPORT OCCUPATIONS		
4011	Freight handlers, packers, and packaging workers	16,000	13
4112	Sailors, deckhands and engine-room workers	.	.
4121	Ship's officers and marine inspectors	.	.
4211	Drivers and conductors	17,000	10
4321	Pilots, flight engineers, transport supervisors and inspectors	.	.
5	MEDICAL AND PARAMEDICAL OCCUPATIONS		
5021	Registered nurses, district nurses and midwives	37,000	32
5022	Student nurses and home nursing personnel	31,000	30
5023	Doctor's, dentist's, and veterinary assistants	10,000	45
5024	Pharmacy assistants, opticians and orthopaedists	4,000	28
5025	EEC technicians, speech therapists and other paramedical occupations	10,000	43
5031	Physiotherapists and occupational therapists	17,000	46
5032	Radiological, medical and biological laboratory professionals	6,000	23
5033	Physicians, medical specialists, pharmacists	6,000	17
5035	Dentists and dental specialists	.	.
6	COMMERCIAL AND ADMINISTRATIVE OCCUPATIONS		
6031	Senior finance and sales managers	6,000	6
6111	Mail clerks and postal workers	7,000	17
6112	Datatypes and computer operators	4,000	23
6121	Administrative supervisors	2,000	5
6122	Secretaries and typists	46,000	32
6123	Library assistants	8,000	39
6124	Book-keepers, bank and tax department employees	73,000	22
6125	Purchasing and sales clerks	65,000	20
6126	Telephonists, receptionists and pollsters	31,000	41
6131	System analysts, programmers and system supervisors	4,000	4
6132	Accountants and economists	5,000	9
6211	Sales assistants	92,000	36
6221	Shopkeepers, retail and wholesale staff	12,000	9
6222	Commercial representatives, sales managers and brokers	11,000	8
6331	Senior civil servants	3,000	9
6332	Legal professionals	3,000	10
7	SOCIO-CULTURAL OCCUPATIONS		
7021	Journalists, authors and announcers	7,000	22
7031	Librarians, archivists and curators	5,000	32
7032	Personnel officers, vocational advisors and employment agents	4,000	14

Table 4. Number and percentage of workers who work less than 30 hours per week per occupational class, average 1988-1992 (continued)

ROA code	occupational class	number	%
7033	Community workers and probation officers	22,000	37
7034	Social scientists	8,000	36
7035	Information service and media specialists	3,000	18
8	HOTEL, CATERING AND SERVICE OCCUPATIONS		
8111	Cooks, waiters and kitchen workers	50,000	40
8121	Hotel and catering owners and supervisors	8,000	14
8211	Porters, cleaners and domestics	84,000	56
8212	Geriatric help, kindergarten staff and nannies	75,000	66
8221	Hairdressers and beauticians	11,000	33
9	PUBLIC SECURITY AND SAFETY OCCUPATIONS		
9121	Police, fire and security officers	3,000	4
9221	Military professionals	.	.
	Total	1,126,000	20

Source: ROA

Table 5. Vacancy rate and percentage of hard-to-fill vacancies per occupational class, September 30th 1992*

ROA code	occupational class	vacancy rate %	hard-to-fill vacancies %
0	EDUCATIONAL OCCUPATIONS		
0131	Primary and special education teachers	x	x
0132	Secondary and tertiary education teachers	x	x
0133	School principals and other higher educational professions	x	x
0221	Trainers, sports officials and sports professionals	-	-
1	CULTURAL OCCUPATIONS		
1131	Translators and other literary professions	-	-
1231	Pastoral vocations	1	-
1321	Photographers, film-makers, designers, and window-dressers	1	50
1331	Visual and performing artists	-	-
2	AGRICULTURAL OCCUPATIONS		
2011	Agricultural workers	1	61
2012	Farmers	-	-
3	TECHNICAL AND INDUSTRIAL OCCUPATIONS		
3011	Forklift drivers	1	-
3012	Construction machine operators	1	67
3021	Directors, managers and supervisors in manufacturing	-	45
3022	Technical and medical representatives	4	33
3023	Technical draughtsmen	1	50
3024	Technical analysts and technical assistants	1	-
3031	Scientific researchers and engineering specialists	1	17
3111	Food and beverage processors	2	38
3112	Bakers and bakery personnel	1	50
3211	Textile production workers	1	-
3212	Upholsterers, shoemakers and leatherworkers	1	-
3213	Clothing, textile and fur product makers	-	-
3311	Wood, paper and cardboard product workers	2	-
3312	Carpenters and woodworkers	1	64
3411	Printers and lower printing industry occupations	1	40
3511	Chemical process workers	1	33
3611	Miners, drilling hands, and smelter workers	-	-
3612	Metal-processing machine operators	1	50
3613	Welders and engineering workers	2	60
3614	Lathe operators, sheet-metal workers, tool and model makers	1	67
3615	Machinery and bicycle mechanics and instrument makers	1	40
3621	Automobile and (motor) cycle mechanics	1	50
3622	Intermediate mechanical engineers and marine engineers	-	-
3631	Higher mechanical engineers	2	33
3711	Electrical product assembly workers and quality controllers	1	50
3721	Electricians and electrical and telecommunication servicemen	2	38
3722	Intermediate electrical engineers	1	-
3731	Higher electrical engineers	1	50
3811	Building materials, glass, and ceramic production workers	1	40
3911	Bricklayers, tilers, paving workers, and plasterers	2	78

* Excluding vacancies in the government and educational sectors, sheltered workshops and temporary employment bureaus.

Table 5. Vacancy rate and percentage of hard-to-fill vacancies per occupational class, September 30th 1992 (continued)

ROA code	occupational class	vacancy rate %	hard-to-fill vacancies %
3912	Roofing, concrete, and insulation workers and glaziers	2	50
3913	Painters (not spray painters)	1	67
3914	Plumbers	2	80
3915	Construction workers, road construction and sanitation workers	1	67
3921	Surveyors, quantity surveyors, work clerks, construction technicians	2	50
3931	Architects, civil engineers and city planners	1	50
4	TRANSPORT OCCUPATIONS		
4011	Freight handlers, packers, and packaging workers	1	24
4112	Sailors, deckhands and engine-room workers	2	-
4121	Ship's officers and marine inspectors	1	-
4211	Drivers and conductors	1	40
4321	Pilots, flight engineers, transport supervisors and inspectors	-	-
5	MEDICAL AND PARAMEDICAL OCCUPATIONS		
5021	Registered nurses, district nurses and midwives	1	36
5022	Student nurses and home nursing personnel	1	43
5023	Doctor's, dentist's, and veterinary assistants	1	33
5024	Pharmacy assistants, opticians and orthopaedists	1	100
5025	EEC technicians, speech therapists and other paramedical occupations	-	100
5031	Physiotherapists and occupational therapists	1	33
5032	Radiological, medical and biological laboratory professionals	1	-
5033	Physicians, medical specialists, pharmacists	1	100
5035	Dentists and dental specialists	2	100
6	COMMERCIAL AND ADMINISTRATIVE OCCUPATIONS		
6031	Senior finance and sales managers	1	29
6111	Mail clerks and postal workers	-	-
6112	Datatypes and computer operators	1	-
6121	Administrative supervisors	-	-
6122	Secretaries and typists	1	7
6123	Library assistants	-	-
6124	Book-keepers, bank and tax department employees	1	21
6125	Purchasing and sales clerks	-	21
6126	Telephonists, receptionists and pollsters	2	17
6131	System analysts, programmers and system supervisors	1	42
6132	Accountants and economists	1	29
6211	Sales assistants	2	25
6221	Shopkeepers, retail and wholesale staff	-	-
6222	Commercial representatives, sales managers and brokers	1	33
6331	Senior civil servants	x	x
6332	Legal professionals	1	-
7	SOCIO-CULTURAL OCCUPATIONS		
7021	Journalists, authors and announcers	1	50
7031	Librarians, archivists and curators	1	-
7032	Personnel officers, vocational advisors and employment agents	1	-

Table 5. Vacancy rate and percentage of hard-to-fill vacancies per occupational class, September 30th 1992 (continued)

ROA code	occupational class	vacancy rate %	hard-to-fill vacancies %
7033	Community workers and probation officers	2	22
7034	Social scientists	1	-
7035	Information service and media specialists	1	-
8	HOTEL, CATERING AND SERVICE OCCUPATIONS		
8111	Cooks, waiters and kitchen workers	2	28
8121	Hotel and catering owners and supervisors	x	x
8211	Porters, cleaners and domestics	2	39
8212	Geriatric help, kindergarten staff and nannies	1	36
8221	Hairdressers and beauticians	2	60
9	PUBLIC SECURITY AND SAFETY OCCUPATIONS		
9121	Police, fire and security officers	1	33
9221	Military professionals	x	x
	Total	1	35

Source: CBS survey of vacancies/ROA

Table 6. Distribution of workers by educational level per occupational class, average 1990-1992

ROA code	occupational class	Primary Education %	JGSE %	PVE %	SGSE %	IVE %	HVE %	UE %	total number
0	EDUCATIONAL OCCUPATIONS								
0131	Primary and special education teachers	.	.	.	.	7	91	.	97,000
0132	Secondary and tertiary education teachers	.	.	.	.	4	55	39	149,000
0133	School principals and other higher educational professions	.	.	.	.	13	49	30	42,000
0221	Trainers, sports officials and sports professionals	.	.	.	.	37	.	.	10,000
1	CULTURAL OCCUPATIONS								
1131	Translators and other literary professions	.	.	.	.	.	.	45	5,000
1231	Pastoral vocations	.	.	.	.	.	35	53	9,000
1321	Photographers, film-makers, designers, and window-dressers	.	.	.	.	44	29	.	34,000
1331	Visual and performing artists	.	.	.	.	13	57	8	30,000
2	AGRICULTURAL OCCUPATIONS								
2011	Agricultural workers	21	7	34	2	34	.	.	141,000
2012	Farmers	10	3	34	.	49	3	.	131,000
3	TECHNICAL AND INDUSTRIAL OCCUPATIONS								
3011	Forklift drivers	40	9	32	.	15	.	.	23,000
3012	Construction machine operators	27	.	30	.	37	.	.	30,000
3021	Directors, managers and supervisors in manufacturing	6	3	12	3	45	20	10	344,000
3022	Technical and medical representatives	.	.	.	.	41	35	.	8,000
3023	Technical draughtsmen	.	.	10	.	65	17	.	35,000
3024	Technical analysts and technical assistants	.	.	.	.	39	39	.	32,000
3031	Scientific researchers and engineering specialists	.	.	.	.	15	32	49	50,000
3111	Food and beverage processors	30	9	30	.	29	.	.	45,000
3112	Bakers and bakery personnel	13	.	29	.	50	.	.	24,000
3211	Textile production workers	37	.	32	.	.	.	.	10,000
3212	Upholsterers, shoemakers and leatherworkers	26	.	34	.	32	.	.	19,000

Table 6. Distribution of workers by educational level per occupational class, average 1990-1992 (continued)

ROA code	occupational class	Primary education %	JGSE %	PVE %	SGSE %	IVE %	HVE %	UE %	total number
3213	Clothing, textile and fur product makers	28	.	38	.	28	.	.	20,000
3311	Wood, paper and cardboard product workers	29	.	29	.	25	.	.	12,000
3312	Carpenters and woodworkers	12	3	43	.	40	.	.	120,000
3411	Printers and lower printing industry occupations	10	9	23	5	50	.	.	55,000
3511	Chemical process workers	14	.	25	.	45	.	.	28,000
3611	Miners, drilling hands, and smelter workers	28	.	31	.	28	.	.	15,000
3612	Metal-processing machine operators	29	8	34	.	27	.	.	40,000
3613	Welders and engineering workers	17	.	46	.	32	.	.	60,000
3614	Lathe operators, sheet-metal workers, tool and model makers	11	3	34	.	48	.	.	76,000
3615	Machinery mechanics and bicycle and instrument makers	9	3	28	.	56	.	.	68,000
3621	Automobile and (motor) cycle mechanics	8	.	32	.	55	.	.	44,000
3622	Intermediate mechanical engineers and marine engineers	.	.	.	.	53	27	.	15,000
3631	Higher mechanical engineers	.	.	.	.	33	44	15	13,000
3711	Electrical product assembly workers and quality controllers	28	13	30	.	26	.	.	23,000
3721	Electricians and electrical and telecommunication servicemen	5	3	24	2	61	4	.	101,000
3722	Intermediate electrical engineers	.	.	.	.	54	.	.	7,000
3731	Higher electrical engineers	.	.	.	.	36	36	21	16,000
3811	Building materials, glass, and ceramic production workers	30	8	38	.	21	.	.	40,000
3911	Bricklayers, tilers, paving workers, and plasterers	30	.	42	.	23	.	.	45,000
3912	Roofing, concrete, and insulation workers and glaziers	36	.	43	.	16	.	.	22,000
3913	Painters (not spray painters)	16	.	41	.	40	.	.	34,000
3914	Plumbers	13	.	37	.	45	.	.	45,000
3915	Construction workers, road construction and sanitation workers	36	6	28	.	14	.	.	80,000
3921	Surveyors, quantity surveyors, work clerks, construction technicians	.	.	.	.	66	18	.	25,000
3931	Architects, civil engineers and city planners	.	.	.	.	24	38	33	29,000
4	TRANSPORT OCCUPATIONS								
4011	Freight handlers, packers, and packaging workers	34	12	31	3	18	.	.	117,000
4112	Sailors, deckhands and engine-room workers	35	.	.	.	.	.	.	6,000
4121	Ship's officers and marine inspectors	.	.	.	.	34	33	.	9,000
4211	Drivers and conductors	24	7	39	2	27	.	.	172,000
4321	Pilots, flight engineers, transport supervisors and inspectors	17	11	15	.	35	17	.	27,000

Table 6. Distribution of workers by educational level per occupational class, average 1990-1992 (continued)

ROA code	occupational class	Primary education %	JGSE %	PVE %	SGSE %	IVE %	HVE %	UE %	total number
5	MEDICAL AND PARAMEDICAL OCCUPATIONS								
5021	Registered nurses, district nurses and midwives	.	.	.	.	65	30	.	117,000
5022	Student nurses and home nursing personnel	2	5	4	5	75	8	.	108,000
5023	Doctor's, dentist's, and veterinary assistants	.	.	.	.	73	.	.	22,000
5024	Pharmacy assistants, opticians and orthopaedists	.	.	.	.	87	.	.	16,000
5025	EEC technicians, speech therapists and other paramedical occupations	.	.	.	.	33	48	.	24,000
5031	Physiotherapists and occupational therapists	.	.	.	.	25	64	7	37,000
5032	Radiological, medical and biological laboratory professionals	.	.	.	.	23	60	.	28,000
5033	Physicians, medical specialists, pharmacists	.	.	.	.	.	.	94	36,000
5035	Dentists and dental specialists	.	.	.	.	.	.	91	5,000
6	COMMERCIAL AND ADMINISTRATIVE OCCUPATIONS								
6031	Senior finance and sales managers	.	3	2	6	34	36	17	107,000
6111	Mail clerks and postal workers	21	15	35	5	23	.	.	40,000
6112	Datatylists and computer operators	.	22	26	.	30	.	.	14,000
6121	Administrative supervisors	.	7	6	9	49	20	5	41,000
6122	Secretaries and typists	3	13	5	10	43	23	2	139,000
6123	Library assistants	.	15	13	.	36	13	.	19,000
6124	Book-keepers, bank and tax department employees	4	13	13	12	45	10	3	338,000
6125	Purchasing and sales clerks	5	14	13	10	44	11	3	331,000
6126	Telephonists, receptionists and pollsters	6	16	12	14	42	10	.	77,000
6131	System analysts, programmers and system supervisors	.	5	2	12	26	36	17	121,000
6132	Accountants and economists	.	.	.	6	19	35	37	52,000
6211	Sales assistants	12	14	25	7	36	4	.	257,000
6221	Shopkeepers, retail and wholesale staff	8	7	10	5	59	10	2	142,000
6222	Commercial representatives, sales managers and brokers	4	8	11	7	53	14	3	138,000
6331	Senior civil servants	.	.	.	.	22	36	36	30,000
6332	Legal professionals	.	.	.	.	8	10	80	30,000

Table 6. Distribution of workers by educational level per occupational class, average 1990-1992 (continued)

ROA code	occupational class	Primary education %	JGSE %	PVE %	SGSE %	IVE %	HVE %	UE %	total number
7	SOCIO-CULTURAL OCCUPATIONS								
7021	Journalists, authors and announcers	.	.	.	15	18	38	24	34,000
7031	Librarians, archivists and curators	.	.	.	.	.	50	23	13,000
7032	Personnel officers, vocational advisors and employment agents	.	.	.	9	23	51	14	28,000
7033	Community workers and probation officers	.	.	.	.	20	55	19	64,000
7034	Social scientists	.	.	.	.	11	18	69	23,000
7035	Information service and media specialists	.	.	.	.	16	23	52	15,000
8	HOTEL, CATERING AND SERVICE OCCUPATIONS								
8111	Cooks, waiters and kitchen workers	20	11	29	7	30	2	.	129,000
8121	Hotel and catering owners and supervisors	14	7	20	4	45	10	.	58,000
8211	Porters, cleaners and domestics	35	9	31	3	18	2	.	151,000
8212	Geriatric help, kindergarten staff and nannies	11	6	20	2	54	6	.	116,000
8221	Hairdressers and beauticians	.	6	9	.	81	.	.	35,000
9	PUBLIC SECURITY AND SAFETY OCCUPATIONS								
9121	Police, fire and security officers	4	5	14	.	69	4	.	60,000
9221	Military professionals	.	9	12	.	53	16	.	37,000
	Total	10	7	18	5	38	15	7	5,775,000
JGSE = Junior General Secondary Education IVE = Intermediate Vocational Education				PVE = Preparatory Vocational Education HVE = Higher Vocational Education					
					SGSE = Senior General Secondary Education UE = University Education				

Source: CBS/ROA

Table 7. Sensitivity to cyclical fluctuations per occupational class

ROA code	occupational class	sensitivity indicator	characterization
0	EDUCATIONAL OCCUPATIONS		
0131	Primary and special education teachers	1.01	small
0132	Secondary and tertiary education teachers	1.04	small
0133	School principals and other higher educational professions	1.15	small
0221	Trainers, sports officials and sports professionals	1.47	average
1	CULTURAL OCCUPATIONS		
1131	Translators and other literary professions	1.40	small
1231	Pastoral vocations	1.51	average
1321	Photographers, film-makers, designers, and window-dressers	1.55	average
1331	Visual and performing artists	1.53	average
2	AGRICULTURAL OCCUPATIONS		
2011	Agricultural workers	1.16	small
2012	Farmers	0.99	very small
3	TECHNICAL AND INDUSTRIAL OCCUPATIONS		
3011	Forklift drivers	1.76	average
3012	Construction machine operators	2.38	large
3021	Directors, managers and supervisors in manufacturing	1.90	average
3022	Technical and medical representatives	1.80	average
3023	Technical draughtsmen	2.04	average
3024	Technical analysts and technical assistants	1.77	average
3031	Scientific researchers and engineering specialists	1.66	average
3111	Food and beverage processors	1.18	small
3112	Bakers and bakery personnel	1.11	small
3211	Textile production workers	3.74	very large
3212	Upholsterers, shoemakers and leatherworkers	2.56	large
3213	Clothing, textile and fur product makers	3.31	very large
3311	Wood, paper and cardboard product workers	2.04	average
3312	Carpenters and woodworkers	2.86	very large
3411	Printers and lower printing industry occupations	2.07	average
3511	Chemical process workers	2.32	large
3611	Miners, drilling hands, and smelter workers	2.54	large
3612	Metal-processing machine operators	2.66	very large
3613	Welders and engineering workers	2.59	large
3614	Lathe operators, sheet-metal workers, tool and model makers	2.38	large
3615	Machinery mechanics and bicycle and instrument makers	2.01	average
3621	Automobile and (motor) cycle mechanics	1.38	small
3622	Intermediate mechanical engineers and marine engineers	2.04	average
3631	Higher mechanical engineers	2.14	average
3711	Electrical product assembly workers and quality controllers	2.90	very large
3721	Electricians and electrical and telecommunication servicemen	2.58	large
3722	Intermediate electrical engineers	2.36	large
3731	Higher electrical engineers	2.40	large
3811	Building materials, glass, and ceramic production workers	2.28	large
3911	Bricklayers, tilers, paving workers, and plasterers	3.34	very large

Table 7. Sensitivity to cyclical fluctuations per occupational class (continued)

ROA code	occupational class	sensitivity indicator	characterization
3912	Roofing, concrete, and insulation workers and glaziers	3.27	very large
3913	Painters (not spray painters)	3.36	very large
3914	Plumbers	3.14	very large
3915	Construction workers, road construction and sanitation workers	2.60	very large
3921	Surveyors, quantity surveyors, work clerks, construction technicians	1.85	average
3931	Architects, civil engineers and city planners	1.49	average
4	TRANSPORT OCCUPATIONS		
4011	Freight handlers, packers, and packaging workers	1.65	average
4112	Sailors, deckhands and engine-room workers	1.11	small
4121	Ship's officers and marine inspectors	1.15	small
4211	Drivers and conductors	1.26	small
4321	Pilots, flight engineers, transport supervisors and inspectors	1.34	small
5	MEDICAL AND PARAMEDICAL OCCUPATIONS		
5021	Registered nurses, district nurses and midwives	1.66	average
5022	Student nurses and home nursing personnel	1.64	average
5023	Doctor's, dentist's, and veterinary assistants	1.70	average
5024	Pharmacy assistants, opticians and orthopaedists	1.48	average
5025	EEC technicians, speech therapists and other paramedical occupations	1.58	average
5031	Physiotherapists and occupational therapists	1.62	average
5032	Radiological, medical and biological laboratory professionals	1.60	average
5033	Physicians, medical specialists, pharmacists	1.62	average
5035	Dentists and dental specialists	1.69	average
6	COMMERCIAL AND ADMINISTRATIVE OCCUPATIONS		
6031	Senior finance and sales managers	1.69	average
6111	Mail clerks and postal workers	1.20	small
6112	Datatypes and computer operators	1.58	average
6121	Administrative supervisors	1.48	average
6122	Secretaries and typists	1.53	average
6123	Library assistants	1.40	small
6124	Book-keepers, bank and tax department employees	1.49	average
6125	Purchasing and sales clerks	1.52	average
6126	Telephonists, receptionists and pollsters	1.44	small
6131	System analysts, programmers and system supervisors	1.61	average
6132	Accountants and economists	1.45	small
6211	Sales assistants	1.45	small
6221	Shopkeepers, retail and wholesale staff	1.39	small
6222	Commercial representatives, sales managers and brokers	1.56	average
6331	Senior civil servants	1.08	small
6332	Legal professionals	1.19	small
7	SOCIO-CULTURAL OCCUPATIONS		
7021	Journalists, authors and announcers	1.71	average
7031	Librarians, archivists and curators	1.45	small
7032	Personnel officers, vocational advisors and employment agents	1.36	small

Table 7. Sensitivity to cyclical fluctuations per occupational class (continued)

ROA code	occupational class	sensitivity indicator	character- ization
7033	Community workers and probation officers	1.43	small
7034	Social scientists	1.40	small
7035	Information service and media specialists	1.27	small
8	HOTEL, CATERING AND SERVICE OCCUPATIONS		
8111	Cooks, waiters and kitchen workers	1.40	small
8121	Hotel and catering owners and supervisors	1.34	small
8211	Porters, cleaners and domestics	1.43	small
8212	Geriatric help, kindergarten staff and nannies	1.52	average
8221	Hairdressers and beauticians	1.31	small
9	PUBLIC SECURITY AND SAFETY OCCUPATIONS		
9121	Police, fire and security officers	1.14	small
9221	Military professionals	1.01	small

Source: ROA

Table 8. Opportunities of switching to other business sectors per occupational class, average 1988-1992

ROA code	occupational class	dispersion index	characterization
0	EDUCATIONAL OCCUPATIONS		
0131	Primary and special education teachers	0.13	very small
0132	Secondary and tertiary education teachers	0.12	very small
0133	School principals and other higher educational professions	0.73	average
0221	Trainers, sports officials and sports professionals	0.45	small
1	CULTURAL OCCUPATIONS		
1131	Translators and other literary professions	0.73	average
1231	Pastoral vocations	0.32	small
1321	Photographers, film-makers, designers, and window-dressers	0.85	large
1331	Visual and performing artists	0.30	very small
2	AGRICULTURAL OCCUPATIONS		
2011	Agricultural workers	0.46	small
2012	Farmers	0.11	very small
3	TECHNICAL AND INDUSTRIAL OCCUPATIONS		
3011	Forklift drivers	0.96	very large
3012	Construction machine operators	0.82	large
3021	Directors, managers and supervisors in manufacturing	0.97	very large
3022	Technical and medical representatives	0.74	average
3023	Technical draughtsmen	0.84	large
3024	Technical analysts and technical assistants	0.90	large
3031	Scientific researchers and engineering specialists	0.91	large
3111	Food and beverage processors	0.72	average
3112	Bakers and bakery personnel	0.15	very small
3211	Textile production workers	0.58	average
3212	Upholsterers, shoemakers and leatherworkers	0.84	large
3213	Clothing, textile and fur product makers	0.73	average
3311	Wood, paper and cardboard product workers	0.45	small
3312	Carpenters and woodworkers	0.64	average
3411	Printers and lower printing industry occupations	0.51	average
3511	Chemical process workers	0.68	average
3611	Miners, drilling hands, and smelter workers	0.76	average
3612	Metal-processing machine operators	0.86	large
3613	Welders and engineering workers	0.80	average
3614	Lathe operators, sheet-metal workers, tool and model makers	0.86	large
3615	Machinery mechanics and bicycle and instrument makers	0.98	very large
3621	Automobile and (motor) cycle mechanics	0.62	average
3622	Intermediate mechanical engineers and marine engineers	0.94	large
3631	Higher mechanical engineers	0.89	large
3711	Electrical product assembly workers and quality controllers	0.83	large
3721	Electricians and electrical and telecommunication servicemen	0.89	large
3722	Intermediate electrical engineers	0.85	large
3731	Higher electrical engineers	0.82	large
3811	Building materials, glass, and ceramic production workers	0.88	large
3911	Bricklayers, tilers, paving workers, and plasterers	0.17	very small

Table 8. Opportunities of switching to other business sectors per occupational class, average 1988-1992 (continued)

ROA code	occupational class	dispersion index	characterization
3912	Roofing, concrete, and insulation workers and glaziers	0.46	small
3913	Painters (not spray painters)	0.25	very small
3914	Plumbers	0.59	average
3915	Construction workers, road construction and sanitation workers	0.81	large
3921	Surveyors, quantity surveyors, work clerks, construction technicians	0.78	average
3931	Architects, civil engineers and city planners	0.71	average
4	TRANSPORT OCCUPATIONS		
4011	Freight handlers, packers, and packaging workers	0.95	large
4112	Sailors, deckhands and engine-room workers	0.71	average
4121	Ship's officers and marine inspectors	0.70	average
4211	Drivers and conductors	0.69	average
4321	Pilots, flight engineers, transport supervisors and inspectors	0.94	large
5	MEDICAL AND PARAMEDICAL OCCUPATIONS		
5021	Registered nurses, district nurses and midwives	0.21	very small
5022	Student nurses and home nursing personnel	0.41	small
5023	Doctor's, dentist's, and veterinary assistants	0.08	very small
5024	Pharmacy assistants, opticians and orthopaedists	0.59	average
5025	EEC technicians, speech therapists and other paramedical occupations	0.47	small
5031	Physiotherapists and occupational therapists	0.32	small
5032	Radiological, medical and biological laboratory professionals	0.51	average
5033	Physicians, medical specialists, pharmacists	0.33	small
5035	Dentists and dental specialists	0.07	very small
6	COMMERCIAL AND ADMINISTRATIVE OCCUPATIONS		
6031	Senior finance and sales managers	0.97	very large
6111	Mail clerks and postal workers	0.52	average
6112	Datatypes and computer operators	0.92	large
6121	Administrative supervisors	0.91	large
6122	Secretaries and typists	0.94	large
6123	Library assistants	0.82	large
6124	Book-keepers, bank and tax department employees	0.92	large
6125	Purchasing and sales clerks	0.95	large
6126	Telephonists, receptionists and pollsters	0.95	large
6131	System analysts, programmers and system supervisors	0.89	large
6132	Accountants and economists	0.79	average
6211	Sales assistants	0.72	average
6221	Shopkeepers, retail and wholesale staff	0.77	average
6222	Commercial representatives, sales managers and brokers	0.93	large
6331	Senior civil servants	0.32	small
6332	Legal professionals	0.70	average
7	SOCIO-CULTURAL OCCUPATIONS		
7021	Journalists, authors and announcers	0.86	large
7031	Librarians, archivists and curators	0.78	average
7032	Personnel officers, vocational advisors and employment agents	0.83	large

Table 8. Opportunities of switching to other business sectors per occupational class, average 1988-1992 (continued)

ROA code	occupational class	dispersion index	characterization
7033	Community workers and probation officers	0.73	average
7034	Social scientists	0.81	large
7035	Information service and media specialists	0.86	large
8	HOTEL, CATERING AND SERVICE OCCUPATIONS		
8111	Cooks, waiters and kitchen workers	0.70	average
8121	Hotel and catering owners and supervisors	0.52	average
8211	Porters, cleaners and domestics	0.89	large
8212	Geriatric help, kindergarten staff and nannies	0.27	very small
8221	Hairdressers and beauticians	0.07	very small
9	PUBLIC SECURITY AND SAFETY OCCUPATIONS		
9121	Police, fire and security officers	0.44	small
9221	Military professionals	0.03	very small

Source: ROA

Table 9. Expected expansion demand per occupational class, 1993-1998

ROA code	occupational class	total number	total %	annual average %	characterization
0	EDUCATIONAL OCCUPATIONS				
0131	Primary and special education teachers	-4,700	-5	-1.0	low
0132	Secondary and tertiary education teachers	-900	-1	-0.1	low
0133	School principals and other higher educational professions	1,900	5	1.0	average
0221	Trainers, sports officials and sports professionals	600	7	1.4	high
1	CULTURAL OCCUPATIONS				
1131	Translators and other literary professions	-	1	0.1	average
1231	Pastoral vocations	500	7	1.4	high
1321	Photographers, film-makers, designers, and window-dressers	4,600	13	2.5	very high
1331	Visual and performing artists	3,900	12	2.3	high
2	AGRICULTURAL OCCUPATIONS				
2011	Agricultural workers	-1,600	-1	-0.2	low
2012	Farmers	-1,500	-1	-0.2	low
3	TECHNICAL AND INDUSTRIAL OCCUPATIONS				
3011	Forklift drivers	2,200	8	1.6	high
3012	Construction machine operators	800	3	0.5	average
3021	Directors, managers and supervisors in manufacturing	34,600	9	1.8	high
3022	Technical and medical representatives	-300	-5	-1.0	low
3023	Technical draughtsmen	-400	-1	-0.2	low
3024	Technical analysts and technical assistants	700	2	0.4	average
3031	Scientific researchers and engineering specialists	5,100	9	1.8	high
3111	Food and beverage processors	-2,000	-4	-0.9	low
3112	Bakers and bakery personnel	-900	-4	-0.7	low
3211	Textile production workers	-1,400	-18	-3.8	very low
3212	Upholsterers, shoemakers and leatherworkers	-1,700	-9	-2.0	very low

Table 9. Expected expansion demand per occupational class, 1993-1998 (continued)

ROA code	occupational class	total number	total %	annual average %	characterization
3213	Clothing, textile and fur product makers	-2,400	-13	-2.7	very low
3311	Wood, paper and cardboard product workers	-	-	-	average
3312	Carpenters and woodworkers	-1,500	-1	-0.2	low
3411	Printers and lower printing industry occupations	5,800	10	1.9	high
3511	Chemical process workers	-300	-1	-0.2	low
3611	Miners, drilling hands, and smelter workers	-300	-2	-0.4	low
3612	Metal-processing machine operators	-100	-	-0.1	average
3613	Welders and engineering workers	-1,500	-3	-0.5	low
3614	Lathe operators, sheet-metal workers, tool and model makers	1,100	1	0.3	average
3615	Machinery mechanics and bicycle and instrument makers	-800	-1	-0.2	low
3621	Automobile and (motor) cycle mechanics	500	1	0.2	average
3622	Intermediate mechanical engineers and marine engineers	-400	-4	-0.8	low
3631	Higher mechanical engineers	500	4	0.7	average
3711	Electrical product assembly workers and quality controllers	-1,500	-7	-1.4	very low
3721	Electricians and electrical and telecommunication servicemen	800	1	0.2	average
3722	Intermediate electrical engineers	-500	-12	-2.6	very low
3731	Higher electrical engineers	2,200	10	2.0	high
3811	Building materials, glass, and ceramic production workers	-4,100	-11	-2.4	very low
3911	Bricklayers, tilers, paving workers, and plasterers	600	1	0.3	average
3912	Roofing, concrete, and insulation workers and glaziers	300	2	0.3	average
3913	Painters (not spray painters)	1,100	3	0.7	average
3914	Plumbers	1,100	2	0.5	average
3915	Construction workers, road construction and sanitation workers	1,600	3	0.5	average
3921	Surveyors, quantity surveyors, work clerks, construction technicians	100	-	0.1	average
3931	Architects, civil engineers and city planners	3,100	10	1.9	high
4 TRANSPORT OCCUPATIONS					
4011	Freight handlers, packers, and packaging workers	7,300	6	1.1	average
4112	Sailors, deckhands and engine-room workers	-200	-4	-0.8	low
4121	Ship's officers and marine inspectors	-	-	-	average
4211	Drivers and conductors	1,400	1	0.2	average
4321	Pilots, flight engineers, transport supervisors and inspectors	1,100	4	0.7	average

Table 9. Expected expansion demand per occupational class, 1993-1998 (continued)

ROA code	occupational class	total number	total %	annual average %	characterization
5	MEDICAL AND PARAMEDICAL OCCUPATIONS				
5021	Registered nurses, district nurses and midwives	18,100	14	2.6	very high
5022	Student nurses and home nursing personnel	9,800	9	1.7	high
5023	Doctor's, dentist's, and veterinary assistants	1,700	7	1.4	high
5024	Pharmacy assistants, opticians and orthopaedists	500	4	0.8	average
5025	EEC technicians, speech therapists and other paramedical occupations	3,600	15	2.9	very high
5031	Physiotherapists and occupational therapists	7,100	17	3.1	very high
5032	Radiological, medical and biological laboratory professionals	1,200	4	0.8	average
5033	Physicians, medical specialists, pharmacists	4,800	12	2.3	high
5035	Dentists and dental specialists	700	12	2.2	high
6	COMMERCIAL AND ADMINISTRATIVE OCCUPATIONS				
6031	Senior finance and sales managers	14,300	12	2.3	high
6111	Mail clerks and postal workers	1,500	3	0.6	average
6112	Datatypes and computer operators	-800	-6	-1.2	very low
6121	Administrative supervisors	4,500	9	1.8	high
6122	Secretaries and typists	4,900	3	0.6	average
6123	Library assistants	300	1	0.3	average
6124	Book-keepers, bank and tax department employees	12,500	4	0.7	average
6125	Purchasing and sales clerks	1,700	1	0.1	average
6126	Telephonists, receptionists and pollsters	4,200	5	1.0	average
6131	System analysts, programmers and system supervisors	22,300	16	3.1	very high
6132	Accountants and economists	2,700	5	0.9	average
6211	Sales assistants	14,900	6	1.1	average
6221	Shopkeepers, retail and wholesale staff	-8,200	-5	-1.1	low
6222	Commercial representatives, sales managers and brokers	-1,500	-1	-0.2	low
6331	Senior civil servants	-600	-2	-0.3	low
6332	Legal professionals	3,300	10	1.9	high

Table 9. Expected expansion demand per occupational class, 1993-1998 (continued)

ROA code	occupational class	total number	total %	annual average %	characterization
7	SOCIO-CULTURAL OCCUPATIONS				
7021	Journalists, authors and announcers	8,100	20	3.7	very high
7031	Librarians, archivists and curators	1,700	11	2.0	high
7032	Personnel officers, vocational advisors and employment agents	4,000	14	2.7	very high
7033	Community workers and probation officers	2,800	4	0.9	average
7034	Social scientists	300	1	0.2	average
7035	Information service and media specialists	2,500	14	2.7	very high
8	HOTEL, CATERING AND SERVICE OCCUPATIONS				
8111	Cooks, waiters and kitchen workers	6,100	5	0.9	average
8121	Hotel and catering owners and supervisors	-100	-	-	average
8211	Porters, cleaners and domestics	1,000	1	0.1	average
8212	Geriatric help, kindergarden staff and nannies	9,200	7	1.4	high
8221	Hairdressers and beauticians	-500	-2	-0.3	low
9	PUBLIC SECURITY AND SAFETY OCCUPATIONS				
9121	Police, fire and security officers	1,600	3	0.5	average
9221	Military professionals	-800	-2	-0.5	low

Source: ROA

Table 10. Expected replacement demand per occupational class, 1993-1998

ROA code	occupational class	total number	total %	annual average %	characterization
0	EDUCATIONAL OCCUPATIONS				
0131	Primary and special education teachers	17,500	19	3.5	average
0132	Secondary and tertiary education teachers	24,900	17	3.2	average
0133	School principals and other higher educational professions	6,500	17	3.2	average
0221	Trainers, sports officials and sports professionals	1,800	21	3.9	high
1	CULTURAL OCCUPATIONS				
1131	Translators and other literary professions	1,300	26	4.8	very high
1231	Pastoral vocations	1,600	23	4.3	high
1321	Photographers, film-makers, designers, and window-dressers	4,700	13	2.5	low
1331	Visual and performing artists	6,700	21	3.8	high
2	AGRICULTURAL OCCUPATIONS				
2011	Agricultural workers	26,000	19	3.5	average
2012	Farmers	22,500	16	2.9	average
3	TECHNICAL AND INDUSTRIAL OCCUPATIONS				
3011	Forklift drivers	3,900	15	2.8	low
3012	Construction machine operators	4,400	15	2.8	low
3021	Directors, managers and supervisors in manufacturing	65,700	18	3.3	average
3022	Technical and medical representatives	500	9	1.8	very low
3023	Technical draughtsmen	7,100	19	3.5	average
3024	Technical analysts and technical assistants	6,200	18	3.3	average
3031	Scientific researchers and engineering specialists	10,300	19	3.5	average
3111	Food and beverage processors	8,000	18	3.3	average
3112	Bakers and bakery personnel	5,200	21	3.8	high
3211	Textile production workers	1,200	16	3.0	average
3212	Upholsterers, shoemakers and leatherworkers	3,200	18	3.3	average

Table 10. Expected replacement demand per occupational class, 1993-1998 (continued)

ROA code	occupational class	total number	total %	annual average %	characterization
3213	Clothing, textile and fur product makers	6,100	33	5.8	very high
3311	Wood, paper and cardboard product workers	2,200	16	3.0	average
3312	Carpenters and woodworkers	22,800	19	3.6	average
3411	Printers and lower printing industry occupations	11,300	19	3.5	average
3511	Chemical process workers	5,300	19	3.6	average
3611	Miners, drilling hands, and smelter workers	2,400	20	3.7	average
3612	Metal-processing machine operators	6,400	19	3.5	average
3613	Welders and engineering workers	9,000	16	3.0	average
3614	Lathe operators, sheet-metal workers, tool and model makers	14,000	19	3.6	average
3615	Machinery mechanics and bicycle and instrument makers	11,600	16	3.1	average
3621	Automobile and (motor) cycle mechanics	5,200	11	2.2	very low
3622	Intermediate mechanical engineers and marine engineers	1,900	17	3.1	average
3631	Higher mechanical engineers	3,600	25	4.6	very high
3711	Electrical product assembly workers and quality controllers	4,000	19	3.5	average
3721	Electricians and electrical and telecommunication servicemen	21,000	21	4.0	high
3722	Intermediate electrical engineers	700	18	3.3	average
3731	Higher electrical engineers	4,000	19	3.5	average
3811	Building materials, glass, and ceramic production workers	6,100	17	3.1	average
3911	Bricklayers, tilers, paving workers, and plasterers	4,600	10	1.9	very low
3912	Roofing, concrete, and insulation workers and glaziers	4,200	20	3.8	average
3913	Painters (not spray painters)	5,500	16	3.1	average
3914	Plumbers	5,900	13	2.5	low
3915	Construction workers, road construction and sanitation workers	10,300	16	3.0	average
3921	Surveyors, quantity surveyors, work clerks, construction technicians	4,800	22	4.1	high
3931	Architects, civil engineers and city planners	5,800	18	3.4	average
4	TRANSPORT OCCUPATIONS				
4011	Freight handlers, packers, and packaging workers	22,700	18	3.3	average
4112	Sailors, deckhands and engine-room workers	400	12	2.3	very low
4121	Ship's officers and marine inspectors	1,100	15	2.8	low
4211	Drivers and conductors	25,500	15	2.8	low
4321	Pilots, flight engineers, transport supervisors and inspectors	4,800	16	3.1	average

Table 10. Expected replacement demand per occupational class, 1993-1998 (continued)

ROA code	occupational class	total number	total %	annual average %	characterization
5	MEDICAL AND PARAMEDICAL OCCUPATIONS				
5021	Registered nurses, district nurses and midwives	22,300	17	3.2	average
5022	Student nurses and home nursing personnel	24,800	22	4.0	high
5023	Doctor's, dentist's, and veterinary assistants	5,600	25	4.5	very high
5024	Pharmacy assistants, opticians and orthopaedists	3,600	28	5.1	very high
5025	EEC technicians, speech therapists and other paramedical occupations	4,600	20	3.7	average
5031	Physiotherapists and occupational therapists	9,400	22	4.1	high
5032	Radiological, medical and biological laboratory professionals	4,500	15	2.8	low
5033	Physicians, medical specialists, pharmacists	7,400	18	3.4	average
5035	Dentists and dental specialists	1,400	22	4.0	high
6	COMMERCIAL AND ADMINISTRATIVE OCCUPATIONS				
6031	Senior finance and sales managers	14,800	12	2.3	very low
6111	Mail clerks and postal workers	8,400	19	3.5	average
6112	Datatypes and computer operators	3,300	23	4.3	high
6121	Administrative supervisors	5,500	11	2.2	very low
6122	Secretaries and typists	32,800	22	4.1	high
6123	Library assistants	3,200	17	3.1	average
6124	Book-keepers, bank and tax department employees	61,000	18	3.3	average
6125	Purchasing and sales clerks	63,100	19	3.6	average
6126	Telephonists, receptionists and pollsters	21,800	25	4.6	very high
6131	System analysts, programmers and system supervisors	9,000	7	1.3	very low
6132	Accountants and economists	6,300	11	2.2	very low
6211	Sales assistants	66,600	26	4.7	very high
6221	Shopkeepers, retail and wholesale staff	28,400	18	3.4	average
6222	Commercial representatives, sales managers and brokers	21,600	16	3.0	average
6331	Senior civil servants	6,400	18	3.4	average
6332	Legal professionals	3,400	10	2.0	very low

Table 10. Expected replacement demand per occupational class, 1993-1998 (continued)

ROA code	occupational class	total number	total %	annual average %	characterization
7	SOCIO-CULTURAL OCCUPATIONS				
7021	Journalists, authors and announcers	3,300	8	1.6	very low
7031	Librarians, archivists and curators	3,000	19	3.6	average
7032	Personnel officers, vocational advisors and employment agents	3,600	13	2.4	low
7033	Community workers and probation officers	6,800	11	2.0	very low
7034	Social scientists	4,500	20	3.7	average
7035	Information service and media specialists	2,200	13	2.4	low
8	HOTEL, CATERING AND SERVICE OCCUPATIONS				
8111	Cooks, waiters and kitchen workers	25,100	19	3.5	average
8121	Hotel and catering owners and supervisors	10,500	17	3.2	average
8211	Porters, cleaners and domestics	29,500	20	3.7	average
8212	Geriatric help, kindergarden staff and nannies	25,700	21	3.8	high
8221	Hairdressers and beauticians	8,100	24	4.3	very high
9	PUBLIC SECURITY AND SAFETY OCCUPATIONS				
9121	Police, fire and security officers	6,000	10	1.9	very low
9221	Military professionals	7,700	22	4.1	high

Source: ROA

Table 11. Expected job openings per occupational class, 1993-1998

ROA code	occupational class	total number	total %	annual average %	character- ization
0	EDUCATIONAL OCCUPATIONS				
0131	Primary and special education teachers	17,500	19	3.5	average
0132	Secondary and tertiary education teachers	24,900	17	3.2	low
0133	School principals and other higher educational professions	8,400	22	4.0	average
0221	Trainers, sports officials and sports professionals	2,500	28	5.1	high
1	CULTURAL OCCUPATIONS				
1131	Translators and other literary professions	1,400	27	4.9	high
1231	Pastoral vocations	2,100	31	5.5	high
1321	Photographers, film-makers, designers, and window-dressers	9,300	26	4.8	high
1331	Visual and performing artists	10,600	33	5.8	very high
2	AGRICULTURAL OCCUPATIONS				
2011	Agricultural workers	26,000	19	3.5	average
2012	Farmers	22,500	16	2.9	low
3	TECHNICAL AND INDUSTRIAL OCCUPATIONS				
3011	Forklift drivers	6,200	23	4.2	average
3012	Construction machine operators	5,200	17	3.3	low
3021	Directors, managers and supervisors in manufacturing	100,200	27	4.9	high
3022	Technical and medical representatives	500	9	1.8	very low
3023	Technical draughtsmen	7,100	19	3.5	average
3024	Technical analysts and technical assistants	6,900	20	3.7	average
3031	Scientific researchers and engineering specialists	15,400	28	5.1	high
3111	Food and beverage processors	8,000	18	3.3	low
3112	Bakers and bakery personnel	5,200	21	3.8	average
3211	Textile production workers	1,200	16	3.0	low
3212	Upholsterers, shoemakers and leatherworkers	3,200	18	3.3	low

Table 11. Expected job openings per occupational class, 1993-1998 (continued)

ROA code	occupational class	total number	total %	annual average %	characterization
3213	Clothing, textile and fur product makers	6,100	33	5.8	very high
3311	Wood, paper and cardboard product workers	2,200	16	3.0	low
3312	Carpenters and woodworkers	22,800	19	3.6	average
3411	Printers and lower printing industry occupations	17,100	28	5.1	high
3511	Chemical process workers	5,300	19	3.6	average
3611	Miners, drilling hands, and smelter workers	2,400	20	3.7	average
3612	Metal-processing machine operators	6,400	19	3.5	average
3613	Welders and engineering workers	9,000	16	3.0	low
3614	Lathe operators, sheet-metal workers, tool and model makers	15,700	21	3.9	average
3615	Machinery mechanics and bicycle and instrument makers	11,600	16	3.1	low
3621	Automobile and (motor) cycle mechanics	5,700	12	2.4	very low
3622	Intermediate mechanical engineers and marine engineers	1,900	17	3.1	low
3631	Higher mechanical engineers	4,200	29	5.2	high
3711	Electrical product assembly workers and quality controllers	4,000	19	3.5	average
3721	Electricians and electrical and telecommunication servicemen	21,800	22	4.1	average
3722	Intermediate electrical engineers	700	18	3.3	low
3731	Higher electrical engineers	6,200	29	5.2	high
3811	Building materials, glass, and ceramic production workers	6,100	17	3.1	low
3911	Bricklayers, tilers, paving workers, and plasterers	5,200	11	2.1	very low
3912	Roofing, concrete, and insulation workers and glaziers	4,500	22	4.1	average
3913	Painters (not spray painters)	6,600	20	3.6	average
3914	Plumbers	7,000	16	3.0	low
3915	Construction workers, road construction and sanitation workers	11,900	19	3.5	average
3921	Surveyors, quantity surveyors, work clerks, construction technicians	4,900	23	4.2	average
3931	Architects, civil engineers and city planners	9,000	28	5.1	high
4	TRANSPORT OCCUPATIONS				
4011	Freight handlers, packers, and packaging workers	30,000	23	4.3	average
4112	Sailors, deckhands and engine-room workers	400	12	2.3	very low
4121	Ship's officers and marine inspectors	1,100	15	2.8	low
4211	Drivers and conductors	26,800	15	2.9	low
4321	Pilots, flight engineers, transport supervisors and inspectors	5,900	20	3.7	average

Table 11. Expected job openings per occupational class, 1993-1998 (continued)

ROA code	occupational class	total number	total %	annual average %	characterization
5	MEDICAL AND PARAMEDICAL OCCUPATIONS				
5021	Registered nurses, district nurses and midwives	40,300	31	5.6	very high
5022	Student nurses and home nursing personnel	34,700	30	5.4	very high
5023	Doctor's, dentist's, and veterinary assistants	7,300	32	5.7	very high
5024	Pharmacy assistants, opticians and orthopaedists	4,000	32	5.7	very high
5025	EEC technicians, speech therapists and other paramedical occupations	8,300	35	6.2	very high
5031	Physiotherapists and occupational therapists	16,500	39	6.8	very high
5032	Radiological, medical and biological laboratory professionals	5,700	19	3.5	average
5033	Physicians, medical specialists, pharmacists	12,200	30	5.4	high
5035	Dentists and dental specialists	2,100	33	5.9	very high
6	COMMERCIAL AND ADMINISTRATIVE OCCUPATIONS				
6031	Senior finance and sales managers	29,100	24	4.4	average
6111	Mail clerks and postal workers	9,900	22	4.1	average
6112	Datatypes and computer operators	3,300	23	4.3	average
6121	Administrative supervisors	10,100	21	3.8	average
6122	Secretaries and typists	37,700	25	4.6	average
6123	Library assistants	3,500	18	3.4	low
6124	Book-keepers, bank and tax department employees	73,500	21	3.9	average
6125	Purchasing and sales clerks	64,800	20	3.6	average
6126	Telephonists, receptionists and pollsters	26,000	30	5.5	high
6131	System analysts, programmers and system supervisors	31,300	23	4.2	average
6132	Accountants and economists	9,000	16	3.0	low
6211	Sales assistants	81,500	32	5.6	very high
6221	Shopkeepers, retail and wholesale staff	28,400	18	3.4	low
6222	Commercial representatives, sales managers and brokers	21,600	16	3.0	low
6331	Senior civil servants	6,400	18	3.4	low
6332	Legal professionals	6,700	20	3.8	average

Table 11. Expected job openings per occupational class, 1993-1998 (continued)

ROA code	occupational class	total number	total %	annual average %	characterization
7	SOCIO-CULTURAL OCCUPATIONS				
7021	Journalists, authors and announcers	11,400	28	5.1	high
7031	Librarians, archivists and curators	4,700	30	5.4	high
7032	Personnel officers, vocational advisors and employment agents	7,600	26	4.8	high
7033	Community workers and probation officers	9,600	15	2.8	low
7034	Social scientists	4,700	21	3.9	average
7035	Information service and media specialists	4,700	27	4.9	high
8	HOTEL, CATERING AND SERVICE OCCUPATIONS				
8111	Cooks, waiters and kitchen workers	31,200	23	4.3	average
8121	Hotel and catering owners and supervisors	10,500	17	3.2	low
8211	Porters, cleaners and domestics	30,500	21	3.8	average
8212	Geriatric help, kindergarten staff and nannies	34,900	28	5.1	high
8221	Hairdressers and beauticians	8,100	24	4.3	average
9	PUBLIC SECURITY AND SAFETY OCCUPATIONS				
9121	Police, fire and security officers	7,500	12	2.4	very low
9221	Military professionals	7,700	22	4.1	average

Source: ROA

Table 12. Break-down of expected job openings into expansion and replacement demand per occupational class, 1993-1998

ROA code	occupational class	expansion demand (%)	replacement demand (%)
0	EDUCATIONAL OCCUPATIONS		
0131	Primary and special education teachers	0	100
0132	Secondary and tertiary education teachers	0	100
0133	School principals and other higher educational professions	23	77
0221	Trainers, sports officials and sports professionals	25	75
1	CULTURAL OCCUPATIONS		
1131	Translators and other literary professions	2	98
1231	Pastoral vocations	24	76
1321	Photographers, film-makers, designers, and window-dressers	50	50
1331	Visual and performing artists	37	63
2	AGRICULTURAL OCCUPATIONS		
2011	Agricultural workers	0	100
2012	Farmers	0	100
3	TECHNICAL AND INDUSTRIAL OCCUPATIONS		
3011	Forklift drivers	36	64
3012	Construction machine operators	15	85
3021	Directors, managers and supervisors in manufacturing	34	66
3022	Technical and medical representatives	0	100
3023	Technical draughtsmen	0	100
3024	Technical analysts and technical assistants	10	90
3031	Scientific researchers and engineering specialists	33	67
3111	Food and beverage processors	0	100
3112	Bakers and bakery personnel	0	100
3211	Textile production workers	0	100
3212	Upholsterers, shoemakers and leatherworkers	0	100
3213	Clothing, textile and fur product makers	0	100
3311	Wood, paper and cardboard product workers	0	100
3312	Carpenters and woodworkers	0	100
3411	Printers and lower printing industry occupations	34	66
3511	Chemical process workers	0	100
3611	Miners, drilling hands, and smelter workers	0	100
3612	Metal-processing machine operators	0	100
3613	Welders and engineering workers	0	100
3614	Lathe operators, sheet-metal workers, tool and model makers	7	93
3615	Machinery mechanics and bicycle and instrument makers	0	100
3621	Automobile and (motor) cycle mechanics	9	91
3622	Intermediate mechanical engineers and marine engineers	0	100
3631	Higher mechanical engineers	13	87
3711	Electrical product assembly workers and quality controllers	0	100
3721	Electricians and electrical and telecommunication servicemen	4	96
3722	Intermediate electrical engineers	0	100
3731	Higher electrical engineers	35	65
3811	Building materials, glass, and ceramic production workers	0	100
3911	Bricklayers, tilers, paving workers, and plasterers	12	88

Table 12. Break-down of expected job openings into expansion and replacement demand per occupational class, 1993-1998 (continued)

ROA code	occupational class	expansion demand (%)	replacement demand (%)
3912	Roofing, concrete, and insulation workers and glaziers	7	93
3913	Painters (not spray painters)	17	83
3914	Plumbers	16	84
3915	Construction workers, road construction and sanitation workers	14	86
3921	Surveyors, quantity surveyors, work clerks, construction technicians	2	98
3931	Architects, civil engineers and city planners	35	65
4	TRANSPORT OCCUPATIONS		
4011	Freight handlers, packers, and packaging workers	24	76
4112	Sailors, deckhands and engine-room workers	0	100
4121	Ship's officers and marine inspectors	0	100
4211	Drivers and conductors	5	95
4321	Pilots, flight engineers, transport supervisors and inspectors	18	82
5	MEDICAL AND PARAMEDICAL OCCUPATIONS		
5021	Registered nurses, district nurses and midwives	45	55
5022	Student nurses and home nursing personnel	28	72
5023	Doctor's, dentist's, and veterinary assistants	23	77
5024	Pharmacy assistants, opticians and orthopaedists	12	88
5025	EEC technicians, speech therapists and other paramedical occupations	44	56
5031	Physiotherapists and occupational therapists	43	57
5032	Radiological, medical and biological laboratory professionals	21	79
5033	Physicians, medical specialists, pharmacists	40	60
5035	Dentists and dental specialists	35	65
6	COMMERCIAL AND ADMINISTRATIVE OCCUPATIONS		
6031	Senior finance and sales managers	49	51
6111	Mail clerks and postal workers	15	85
6112	Datatypes and computer operators	0	100
6121	Administrative supervisors	45	55
6122	Secretaries and typists	13	87
6123	Library assistants	7	93
6124	Book-keepers, bank and tax department employees	17	83
6125	Purchasing and sales clerks	3	97
6126	Telephonists, receptionists and pollsters	16	84
6131	System analysts, programmers and system supervisors	71	29
6132	Accountants and economists	30	70
6211	Sales assistants	18	82
6221	Shopkeepers, retail and wholesale staff	0	100
6222	Commercial representatives, sales managers and brokers	0	100
6331	Senior civil servants	0	100
6332	Legal professionals	49	51
7	SOCIO-CULTURAL OCCUPATIONS		
7021	Journalists, authors and announcers	71	29
7031	Librarians, archivists and curators	36	64
7032	Personnel officers, vocational advisors and employment agents	53	47

Table 12. Break-down of expected job openings into expansion and replacement demand per occupational class, 1993-1998 (continued)

ROA code	occupational class	expansion demand (%)	replacement demand (%)
7033	Community workers and probation officers	29	71
7034	Social scientists	6	94
7035	Information service and media specialists	53	47
8	HOTEL, CATERING AND SERVICE OCCUPATIONS		
8111	Cooks, waiters and kitchen workers	20	80
8121	Hotel and catering owners and supervisors	0	100
8211	Porters, cleaners and domestics	3	97
8212	Geriatric help, kindergarten staff and nannies	26	74
8221	Hairdressers and beauticians	0	100
9	PUBLIC SECURITY AND SAFETY OCCUPATIONS		
9121	Police, fire and security officers	21	79
9221	Military professionals	0	100

Source: ROA

Table 13. Characterization of expected employment prospects per occupational class

0 EDUCATIONAL OCCUPATIONS

0131 Primary and special education teachers

Although employment will be reduced in the coming years, the total demand for new teachers for primary and special education is not expected to differ significantly from the average demand for new entrants to the labour market. Those working in this occupational class are very dependent on changes in employment levels in the education system, because it is not easy to switch to other sectors. The employment for primary and special education teachers is however not sensitive to the state of the economic cycle.

0132 Secondary and tertiary education teachers

The demand for new teachers for secondary and higher education is expected to be low in the coming years, mainly because employment levels will not rise. However the movements in employment levels in this occupation can differ very much for the diverse subject areas within secondary education. It is also very dependent on changes in employment levels in the education system, because it is generally not easy to switch to other business sectors. Employment for secondary school teachers is however not very sensitive to the state of the economic cycle.

0133 School principals and other higher educational professions

The demand for new school principals and other higher educational professionals in the coming years is not expected to differ markedly from the average demand for new entrants to the labour market. Employment in this occupational class is not sensitive to unexpected changes in the economic situation.

0221 Trainers, sports officials and sports professionals

The demand for new entrants in the sport professions in the coming years is expected to be high. Employment growth in these occupations is high and many posts also need to be filled because of the high labour turnover. On the other hand this occupation is very dependent on changes in employment levels in the sector of social work and similar services, because it is not easy to switch to other business sectors.

1 CULTURAL OCCUPATIONS

1131 Translators and other literary professions

In the coming years the demand for new translators and other literary professionals is expected to be high. Many of the existing workers will need to be replaced because of the high labour turnover in this occupation. Moreover, employment for this occupation is not sensitive to changes in the economic cycle.

1231 Pastoral vocations

In the coming years there are expected to be many jobs for new workers in pastoral occupations. New jobs will be created, but it will mainly be that many older people retire, so that there will be a high demand for replacements. This occupation is however very dependent on a very specific segment of the employment pool, because there are few opportunities of switching.

1321 Photographers, film-makers, designers, and window dressers

Thanks to a very large number of new jobs, and despite low labour turnover in this occupation, the demand for new photographers, film-makers, designers, and window dressers is expected to be high in the coming years. The employment is also spread over many business sectors, so that workers are not dependent on a single sector for their work.

1331 Visual and performing artists

Since many new jobs will be created, and there will also be considerable demand due to people leaving this occupation, the demand for new visual and performing artists is expected to be very large. One drawback of these occupations, however, is that employment is very dependent on the sector of social work and similar services.

2 AGRICULTURAL OCCUPATIONS

2011 Agricultural workers

Although employment levels will fall slightly in the coming years, the total demand for agricultural workers is not expected to differ significantly from the average demand for new entrants to the labour market. Employment in this occupation is not very sensitive to fluctuations in the trade cycle, but the occupation is very dependent on the agriculture, fisheries and forestry sector.

2012 Farmers

The coming years are expected to see the loss of a small number of jobs for farmers, so that the demand for new entrants will be small. This occupation is also very reliant on employment in agriculture, and there are very few opportunities of switching to other business sectors. On the other hand there is one advantage, that employment in this occupation is not sensitive to economic shocks.

3 TECHNICAL AND INDUSTRIAL OCCUPATIONS

3011 Forklift drivers

Considerable new demand for forklift drivers will arise in the coming years. However only a few of those already working in this occupation are expected to leave the labour market, so that few existing jobs will be available for replacements. As a result, the number of jobs available for new entrants will be no more than average. Employment in this occupation is very widely spread over the various business sectors, so that workers are not dependent on developments in a particular economic sector.

3012 Construction machine operators

Because few construction machine operators will retire in the coming years, few jobs are expected to be available for new entrants. Employment in this occupation is also very sensitive to the state of the business cycle, but it is spread over several business sectors, so that the workers are not too dependent on any one sector.

3021 Directors, managers and supervisors in manufacturing

Because many new jobs are expected to be created in the coming years for directors, managers and supervisors in manufacturing, the demand for new entrants will be large. There is also employment for this occupation in almost every business sector, so that staff of this class are not dependent on just a single business sector for their employment.

3022 Technical and medical representatives

Because some jobs for technical and medical representatives will, in the coming years, disappear and because the labour turnover in this occupation will be very low, there are very few places available for new entrants to the labour market. Although this occupation offers only a limited number of business sectors in which one can work, there are enough switching opportunities to prevent employment being dependent on a single business sector.

3023 Technical draughtsmen

Although a small number of jobs for technical draughtsmen will be lost in the near future, the demand for new entrants in this occupation is not expected to differ markedly from the average demand for new entrants to the labour market. Moreover, technical draughtsmen work in many business sectors, so that they are not dependent on one particular business sector.

3024 Technical analysts and technical assistants

The demand for new technical analysts and technical assistants is not expected, in the coming years, to differ much from the average demand for new entrants to the labour market. This work is also well spread over the business sectors, without depending on a particular sector.

3031 Scientific researchers and engineering specialists

Many new jobs will be created for scientific researchers and engineering specialists in the coming years, leading to a high demand for new entrants. The employment in this occupation is also not dependent on a particular business sector, but can be found in many different places.

3111 Food and beverage processors

Because employment for food and beverage processors is expected to fall, the number of jobs coming available for new entrants will be low. One advantage of this occupation, however, is that the sensitivity of employment to shifts in the general economic situation is very limited.

3112 Bakers and bakery personnel

Because, on the one hand, the employment for bakers and bakery personnel will fall in the coming years, but on the other hand labour turnover will be high, the total demand for new entrants is not expected to differ significantly from the average level. The employment in the occupation is not very sensitive to movements in the business cycle, but is very dependent on the food and beverage sector.

3211 Textile production workers

Because of the very sharp reduction in employment for textile production workers, the number of jobs available for new entrants is expected to be low. Moreover, employment in this occupation is very dependent on the state of the economy.

3212 Upholsterers, shoemakers and leatherworkers

Because, in the coming years, employment for upholsterers, shoemakers and leatherworkers is expected to fall sharply, few jobs are expected to be available for new entrants. Employment in this occupation is also very dependent on the state of the economy, but is well spread over the various business sectors.

3213 Clothing, textile and fur product makers

Although very many jobs for clothing, textile and fur product makers will be lost in the short term, very many positions are expected to be available for new entrants to the labour market. This is because of the very large number of jobs falling open as people leave the occupation. One disadvantage of this occupation is that employment levels are very much dependent on the economic cycle.

3311 Wood, paper and cardboard product workers

The expectation is that few jobs for wood, paper and cardboard product workers will be available for new entrants to the labour market during the forecast period. Work in this occupation is also very dependent on the printing and paper industry and offers few opportunities of switching to other sectors.

3312 Carpenters and woodworkers

Although there are expected to be some job losses for carpenters and woodworkers, the demand for new entrants will not differ significantly from the average. Employment in this occupation is however very sensitive to changes in the economic cycle.

3411 Printers and lower printing industry occupations

Because many new jobs for printers and production workers in the printing industry will be created in the near future, the demand for new entrants in this occupation is expected to be high. Although this occupation offers employment in only a limited number of business sectors, there are enough switching opportunities to prevent employment being dependent on a single business sector.

3511 Chemical process workers

Although a slight fall in employment is expected in the coming years, the number of job openings for new entrants to the labour market will not differ much from the average. Employment in this occupation is however sensitive to economic fluctuations.

3611 Miners, drilling hands and smelter workers

Although some jobs for miners, drilling hands and for smelter workers in the metals industry will be lost, the demand for new entrants will be close to the average. Employment in this occupation is however sensitive to the state of the economy.

3612 Metal-processing machine operators

The number of jobs expected to be available for new metal-processing machine operators will not be very much different from the average. Employment in this occupation is well spread over the business sectors, so that employment is not dependent on a single business sector. It is however very sensitive to fluctuations in the general economic situation.

3613 Welders and engineering workers

Because employment for welders and engineering workers is expected to retrench in the coming years, the number of jobs available for new entrants in this occupation is low. Employment in this occupation is also sensitive to changes in the business cycle.

3614 Lathe operators, sheet metal workers, and tool and model makers

The number of jobs available for new lathe operators, sheet metal workers, and tool and model makers is expected to be about average. Employment in this occupation is well spread over the business sectors, so that one is not dependent on a single business sector for work. Employment is however sensitive to changes in the general economic situation.

3615 Machinery mechanics and instrument and bicycle makers

In the near future there will be slightly fewer jobs for machinery mechanics and instrument and bicycle makers, leading to a low expected demand for new entrants. The employment in this occupation is very well spread over the business sectors, so that workers are not dependent on the employment level in a particular business sector.

3621 Automobile and (motor) cycle mechanics

Because very few automobile and (motor) cycle mechanics will leave the occupation, for example by retiring, in the coming years, the demand for new entrants is expected to be very low. However the employment in this occupation is not very sensitive to economic swings.

3622 Intermediate mechanical engineers and marine engineers

The coming years will see the loss of jobs for intermediate mechanical engineers and marine engineers, which will also mean a low demand for new entrants. Employment for this occupation is however well spread over the business sectors, so that workers are not dependent on the employment level in a particular business sector.

3631 Higher mechanical engineers

Very many higher mechanical engineers will retire in the next few years, leading to a high demand for newcomers in this occupation. Employment in this occupation is also spread over many business sectors, so that it is not dependent on a particular business sector.

3711 Electrical product assembly workers and quality controllers

Although the number of jobs for electrical product assembly workers and quality controllers will fall in the coming years, the labour turnover in this occupation will ensure that the demand for new entrants does not differ much from the average demand for new entrants to the labour market. The employment in this occupation is spread over many business sectors, so that it is not dependent on developments in a particular sector, but it is very sensitive to changes in the economy.

3721 Electricians and electrical and telecommunication servicemen

Although many jobs are expected to fall vacant in the coming years as older employees retire, the demand for new entrants will nevertheless not differ markedly from the average demand for new entrants to the labour market. The employment in this occupation extends over many business sectors, so that it is not dependent on the development of a particular sector, but it is quite sensitive to changes in the economic cycle.

3722 Intermediate electrical engineers

Many jobs for intermediate electrical engineers will disappear in the next few years, as a result of which the demand for new entrants is expected to be low. Moreover, employment in this occupation is sensitive to changes in the business cycle. On the other hand, it is spread over diverse business sectors, so that there is no dependence on a particular sector.

3731 Higher electrical engineers

Because many jobs for higher electrical engineers will be created in the coming years, the demand for new entrants to this occupation is expected to be large. Employment in this occupation is spread over many business sectors, so that it is not dependent on the development of a particular sector, but it is quite sensitive to changes in the economy.

3811 Building materials, glass, and ceramic production workers

Because of the marked reduction in employment for building materials, glass, and ceramic production workers, the demand for new entrants is expected to be low. Employment in this occupation is also sensitive to economic oscillations. It is however well distributed over the business sectors, so that it is not dependent on any one sector.

3911 Bricklayers, tilers, paving workers, and plasterers

The number of bricklayers, tilers, paving workers, and plasterers due to retire in the coming years is very low, which is expected to lead to a very low demand for new entrants. The employment in this occupation is also very sensitive to economic fluctuations and is strongly concentrated in the construction industry, so that employment opportunities are very dependent on this business sector.

3912 Roofing, concrete, and insulation workers and glaziers

The demand for new roofing, concrete, and insulation workers and glaziers is not expected to differ much, in the coming years, from the average demand for new entrants to the labour market. In this occupation one is however very dependent on the construction industry, which also means that employment levels are very sensitive to the state of the economy.

3913 Painters (not spray painters)

The demand for new painters (not spray painters) in the coming years is not expected to differ much from the average demand for new entrants to the labour market. Employment in this occupation is also very

sensitive to the rises and falls in the trade cycle and is strongly concentrated in the construction industry, so that work opportunities are very dependent on this business sector.

3914 Plumbers

Few plumbers are expected to retire in the coming years, so that the demand for new entrants is expected to be low. The employment in this occupation is also very sensitive to fluctuations in the trade cycle.

3915 Construction workers, road construction and sanitation workers

The demand for new construction workers, road construction and sanitation workers is not expected to differ much in the coming years from the average demand for new entrants to the labour market. Although employment in this occupation is very sensitive to changes in the business cycle, the occupation does not leave one entirely dependent on the construction industry, because there are sufficient opportunities of switching to other business sectors.

3921 Surveyors, quantity surveyors, work clerks and construction technicians

Although many jobs will be open in this occupation in the coming years as older employees retire, the demand for new entrants is not expected to differ much from the average demand for new entrants to the labour market. Although this occupation offers employment in only a limited number of business sectors, there are sufficient opportunities of switching to ensure that employment is not dependent on a single business sector.

3931 Architects, civil engineers and city planners

Because there will be a large increase in the number of jobs for architects, civil engineers and city planners in the next few years, the demand for new entrants in this occupation is also expected to be large. It would also appear that, although this occupation offers employment in only a limited number of business sectors, there are nevertheless sufficient switching opportunities to ensure that employment is not dependent on a single business sector.

4 TRANSPORT OCCUPATIONS

4011 Freight handlers, packers, and packaging workers

The demand for new freight handlers, packers, and packaging workers in the coming years is expected to be close to the average. Employment in this occupation is well spread over the various business sectors so that work is not dependent on a particular business sector.

4112 Sailors, deckhands and engine-room workers

The coming years will see very few of those already working in this occupation retiring, and the employment in this occupation will be reduced. As a result, only a few jobs are expected to be available for new entrants to this occupation. The employment in this occupation is however not very sensitive to the economic situation.

4121 Ship's officers and marine inspectors

Retirements will create very few vacancies for ship's officers and marine inspectors in the coming years. The demand for new entrants is as a result expected to be low. However employment in this occupation is almost insensitive to economic movements.

4211 Drivers and conductors

Few drivers and conductors will retire in the coming years, meaning that only a few jobs will fall vacant for new entrants to these occupations. Employment levels are not very sensitive to the economic situation.

4321 Pilots, flight engineers, transport supervisors and inspectors

The demand for new pilots, flight engineers, transport supervisors and inspectors is not expected to differ much in the coming years from the average demand for new entrants to the labour market. Employment in this occupation is also not sensitive to the economic climate.

5 MEDICAL AND PARAMEDICAL OCCUPATIONS

5021 Registered nurses, district nurses and midwives

Because very many jobs will be created over the next few years for registered nurses, district nurses and midwives, the demand for new entrants is also expected to be very high. Nursing work is however very dependent on the health care sector, and there are few opportunities of switching to other business sectors.

5022 Student nurses and home nursing personnel

Because of the large increase in the number of jobs for student nurses and home nursing personnel, and the large labour turnover in this occupation, the demand for new entrants will be very high. Employment opportunities are however concentrated in the health care sector and are very dependent on developments in this sector.

5023 Doctor's, dentist's, and veterinary assistants

Because of the growth in these occupations and the very high labour turnover among doctor's, dentist's, and veterinary assistants, the number of jobs for new entrants is expected to be very high in the next few years. However work in these occupations is almost entirely dependent on the health care sector.

5024 Pharmacy assistants, opticians and orthopaedists

The very high labour turnover in these occupations is expected to mean a very high demand for new pharmacy assistants, opticians and orthopaedists.

5025 EEC technicians, speech therapists and other paramedical occupations

Over the coming years very many new jobs are expected to be created in the paramedical functions, such as hospital technicians and speech therapists. This will result in a very high demand for new entrants. Employment in these functions is however very dependent on the health care sector and there are few opportunities of switching to other sectors.

5031 Physiotherapists and occupational therapists

In the near future very many new jobs are expected to be created for physiotherapists and occupational therapists. Yet more jobs will fall vacant because of the high labour turnover in this occupational class. As a result, the demand for new entrants will be very high. However employment in these functions is very dependent on the health care sector and there are few opportunities of switching to other sectors.

5032 Radiological, medical and biological laboratory professionals

Only limited numbers of those already working in these occupations leave, which means that only a few jobs become available. Nevertheless the expected demand for new entrants in the next few years will not differ markedly from the average demand for new entrants to the labour market. Although employment in these occupations is very dependent on the health care sector, there are also opportunities of switching to other sectors, such as education.

5033 Physicians, medical specialists and pharmacists

Because of a large increase in the number of jobs, the demand for new physicians, medical specialists and pharmacists in the coming years will be high. These medical professionals are very dependent for their employment on the health care sector and cannot easily switch to other sectors.

5035 Dentists and dental specialists

Since the next few years will see the emergence of many new jobs for dentists and dental specialists, and many dental specialists will also retire, the demand for new entrants in this occupation will be very high. These personnel are however very dependent on the health care sector for their employment and cannot easily switch to other sectors.

6 COMMERCIAL AND ADMINISTRATIVE OCCUPATIONS

6031 Senior finance and sales managers

Since, on the one hand, many new jobs will be created for senior finance and sales managers in the coming years but, on the other hand, very few jobs will fall vacant, because of the limited labour turnover, the demand for new entrants is not expected to differ markedly from the average demand for new entrants to the labour market. One advantage of this occupation is, however, that its employment is spread over very many business sectors, so that it is not dependent on a specific sector.

6111 Mail clerks and postal workers

The demand for new mail clerks and postal workers is not expected to differ very much in the next few years from the average demand for new entrants to the labour market. Employment in this occupation is not very sensitive to the ups and downs in the economic situation.

6112 Data typists and computer operators

Although employment for data typists and computer operators is expected to fall, the labour turnover in this occupation will be high, with the net effect that the demand for new entrants will be close to the

average demand for new entrants to the labour market. Employment in this occupation is spread over many business sectors, so that it is not dependent on a particular business sector.

6121 Administrative supervisors

On the one hand, the coming years are expected to see the creation of much new employment for supervisory administrative personnel, while on the other hand very few people with this occupation will retire. As a result, the demand for new entrants is not expected to differ markedly from the average demand for new entrants to the labour market. Employment in this occupation is spread over many business sectors, so that it is not dependent on a particular sector.

6122 Secretaries and typists

The demand for new secretaries and typists is not expected to differ markedly from the average demand for new entrants to the labour market, although the labour turnover is relatively high. The employment is spread over many business sectors, so that it is not dependent on a single business sector.

6123 Library assistants

The demand for new library assistants is expected to be low in the next few years, but people with this occupation find work in various economic sub-sectors, so that they are not dependent on employment levels in a specific business sector. The changes in employment levels are also not very vulnerable to the state of the economy.

6124 Book-keepers, bank, and tax-department employees

The demand for new book-keepers, bank, and tax-department employees in the coming years is not expected to differ markedly from the average demand for new entrants to the labour market. The employment in this occupation is well spread, so that it is not dependent on a specific business sector.

6125 Purchasing and sales clerks

The demand for new purchasing and sales clerks over the next few years is not expected to differ markedly from the average demand for new entrants to the labour market. Employment in this occupation is well spread, so that it is not dependent on a specific business sector.

6126 Telephonists, receptionists and pollsters

Because the labour turnover among telephonists, receptionists and pollsters is expected to be very high over the next few years, a high demand is expected for new entrants to this occupation. The employment in this occupation is spread over many business sectors and is not very sensitive to fluctuations in the economic situation.

6131 System analysts, programmers, and system supervisors

Because the coming years will see the creation of very many new jobs for system analysts, programmers, and system supervisors, but there will also be few of those already working who leave these occupations - due to the age structure of the workforce - the demand for new entrants is expected to be about the same as the average demand for new entrants to the labour market. Employment in these occupations is well spread, so that it is not dependent on a specific business sector.

6132 Accountants and economists

Because very low numbers of accountants and economists will retire in the coming years, the demand for new entrants in this occupation is expected to be low. On the other hand employment in this occupation seems not to be very sensitive to the changeable economic climate.

6211 Sales assistants

Since the labour turnover for sales assistants will be very high in the next few years, it is also expected that demand for new entrants in this occupation will be very high. Employment in these occupations is not very sensitive to fluctuations in the economic situation.

6221 Shopkeepers, retail and wholesale staff

Because it is expected that the number of jobs for shopkeepers, retail and wholesale staff will fall over the coming years, the demand for new entrants in this occupation will also be small. However employment in these occupations is not very sensitive to the phases of the economic cycle.

6222 Commercial representatives, branch managers and brokers

Employment for these occupations will fall somewhat during the coming years, as a result of which the demand for new entrants will be small. However the employment for these occupations is not dependent on a specific business sector.

6331 Senior civil servants

A small reduction in the number of jobs for senior civil servants means that the expected demand for new entrants for the coming years is low. Employment in this occupational class is however almost independent of the economic situation, although it is very dependent on the sector of public administration and senior civil servants cannot easily switch to other business sectors.

6332 Legal professionals

On the one hand, the coming years will see the creation of many new jobs in the legal professions, but on the other hand very few jobs are left open by labour turnover, with the result that the demand for new entrants is not expected to differ markedly from the average demand for new entrants to the labour market. One advantage of these occupations, however, is that the employment they offer is only slightly reliant on the state of the economy.

7 SOCIO-CULTURAL OCCUPATIONS

7021 Journalists, authors and announcers

Although few jobs will become available as older workers retire, the expected growth of these occupations is so large that the demand for new entrants will be high. Journalists, authors and radio and television announcers also find work in many business sectors, so that they are not all dependent on employment in the printing sector.

7031 Librarians, archivists and curators

Because of the high growth which this occupational class will enjoy over the coming years, the demand for new entrants is expected to be high. Employment in this occupational class is also not very dependent on the economic situation.

7032 Personnel officers, vocational advisors and employment agents

The growth in employment for personnel officers, vocational advisors and employment agents over the next few years is expected to be very high. However, because many people in this field are still young, not many jobs are made available by retirements. All in all, the demand for new entrants in this occupation will be high. The employment it offers is also spread over many business sectors, so that it is not dependent on a specific sector. Moreover, the employment in this occupation is not sensitive to changes in the economic climate.

7033 Community workers and probation officers

The very low labour turnover among community workers and probation officers means that the demand for new entrants in the coming years is expected to be low, but these occupations offer the advantage of employment which is not very sensitive to changes in the economic climate.

7034 Social scientists

The demand for new social scientists over the next few years is not expected to differ much from the average demand for new entrants to the labour market. Employment for this occupation is also only slightly dependent on the economic situation.

7035 Information service and media specialists

The demand for new information service and media specialists will be high during the coming years, because many new jobs are expected to be created for this occupation. There is little labour turnover, but that is not significant in comparison to the high growth of this occupation. The employment is also spread over many business sectors, so that it is not dependent on a specific business sector, and it is also not sensitive to changes in the economic cycle.

8 HOTEL, CATERING AND SERVICE OCCUPATIONS

8111 Cooks, waiters and kitchen workers

The demand for new cooks, waiters and kitchen workers will not differ significantly in the coming years from the average demand for new entrants to the labour market. Employment in these occupations is not very sensitive to the cyclical state of the economy.

8121 Hotel and catering owners and supervisors

The demand for new owners and supervisors in hotel, catering, and recreational enterprises is expected to be small over the coming years. However employment in these occupations is apparently not sensitive to the economic situation.

8211 Porters, cleaners and domestics

The demand for new porters, cleaners and domestics during the coming years is not expected to differ markedly from the average demand for new entrants to the labour market. Employment levels in these occupations are not very sensitive to the state of the economy and the work is spread over many business sectors, so that it is not dependent on a particular business sector.

8212 Geriatric help, kindergarten staff and nannies

Because both the growth in employment levels and the labour turnover among geriatric help, kindergarten staff and nannies are expected to be high in the coming years, the demand for new entrants is high. However employment is very strongly concentrated in the sector of social work and similar services, with work only rarely being found outside this sector.

8221 Hairdressers and beauticians

Although the labour turnover among hairdressers and beauticians is very high, the demand for new entrants over the next few years is expected to be around the average demand for new entrants to the labour market. This is due to a small reduction in the employment offered in this occupation. Employment in these occupations is very strongly concentrated in social work and similar services, so that these workers are very dependent on this sector. This occupational class is not very susceptible to fluctuations in the economic climate.

9 PUBLIC SECURITY AND SAFETY OCCUPATIONS

9121 Police, fire and security officers

The very low labour turnover among police, fire and security officers is expected to lead to very low demand for new entrants over the next few years. However the employment in these occupations is not too sensitive to the economic situation.

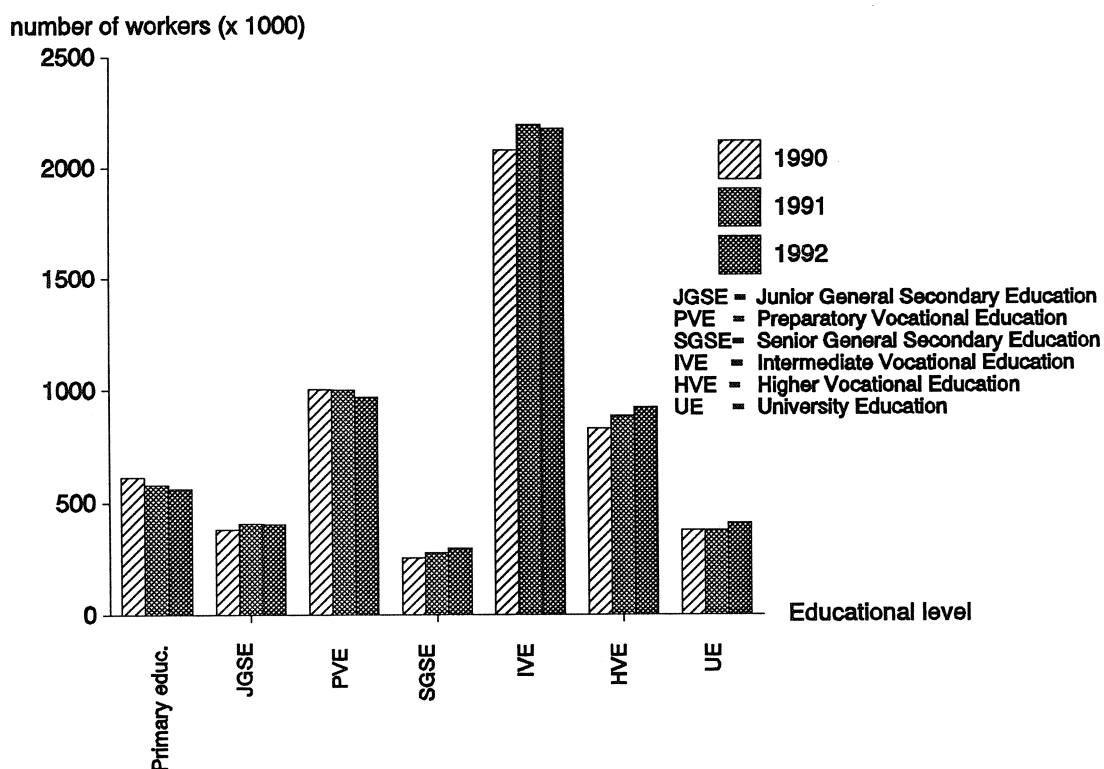
9221 Military professionals

Military professionals will face a small cut in employment over the next few years, but on the other hand the demand created by the departure of military personnel is high. As a result, the demand for new entrants will not differ markedly from the average demand for new entrants to the labour market. The employment of military professionals is almost independent of the economic situation, but they are entirely dependent on the armed forces as their employer, without the opportunity to switch to other business sectors.

Source: ROA

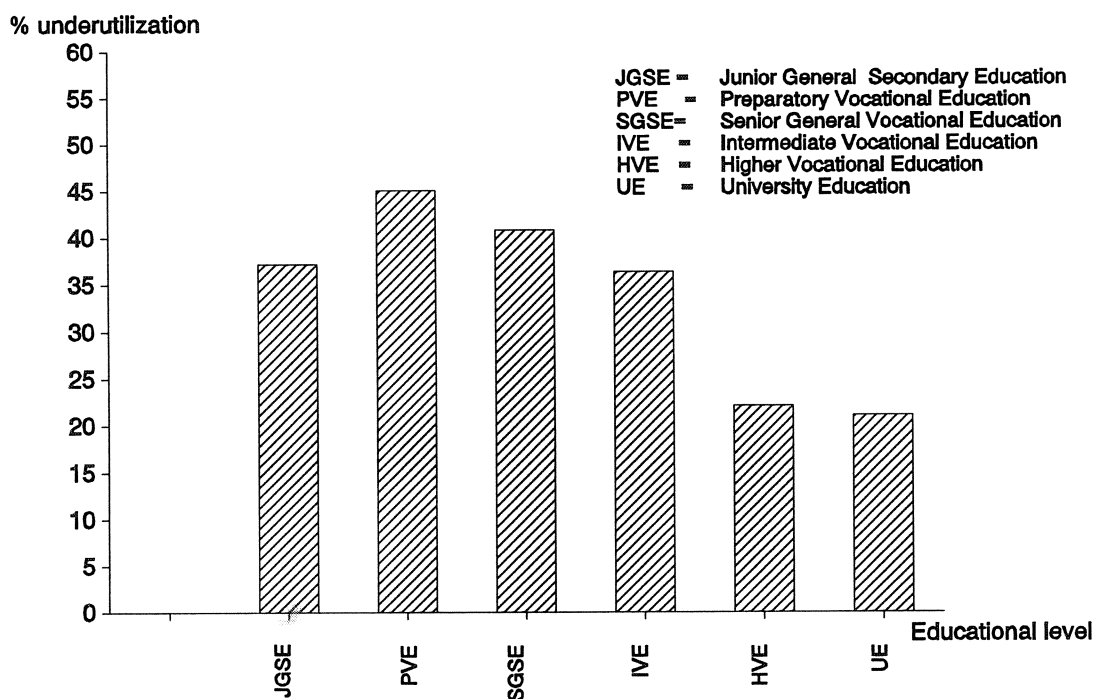
INFORMATION ON EDUCATION

Figure 4. Distribution of labour force by educational level, 1990-1992



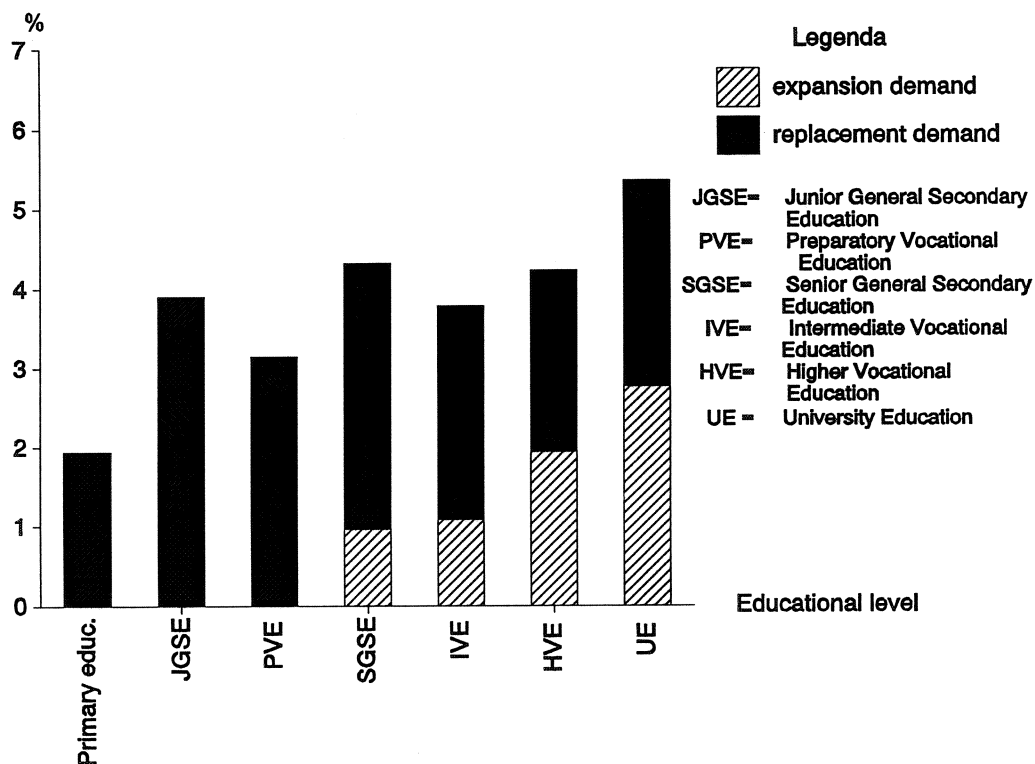
Source: ROA

Figure 5. Percentage of under-utilization per educational level, 1992



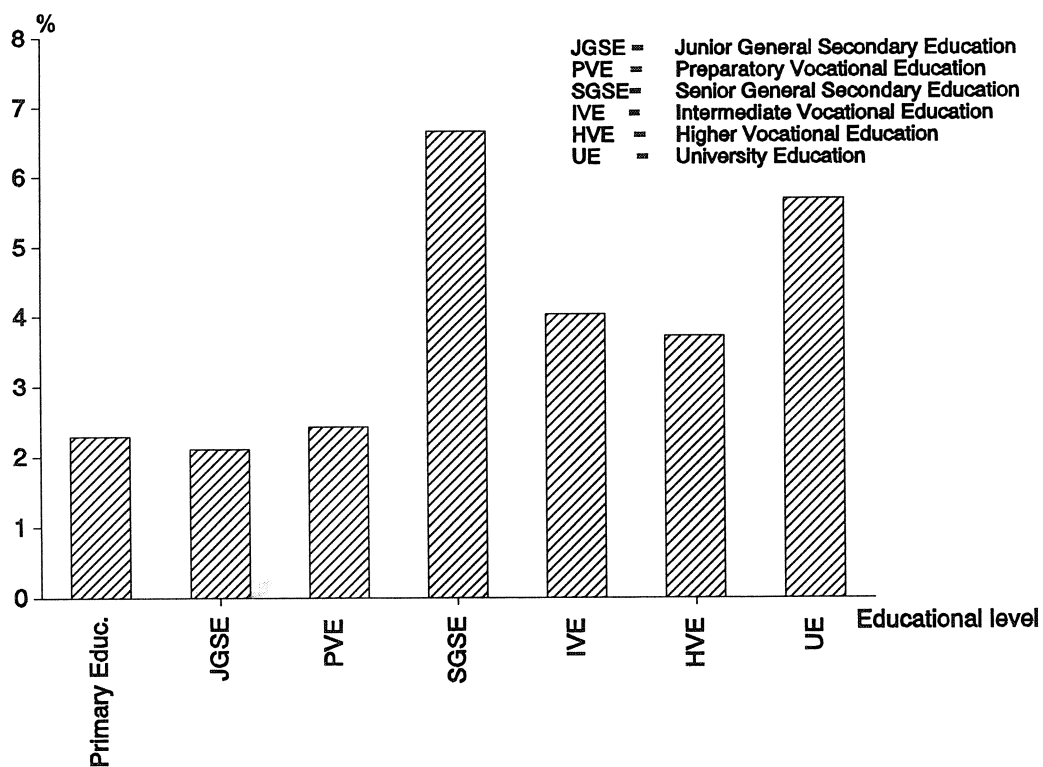
Source: ROA

Figure 6. Expected number of job openings broken down to expansion and replacement demand per educational level, 1993-1998



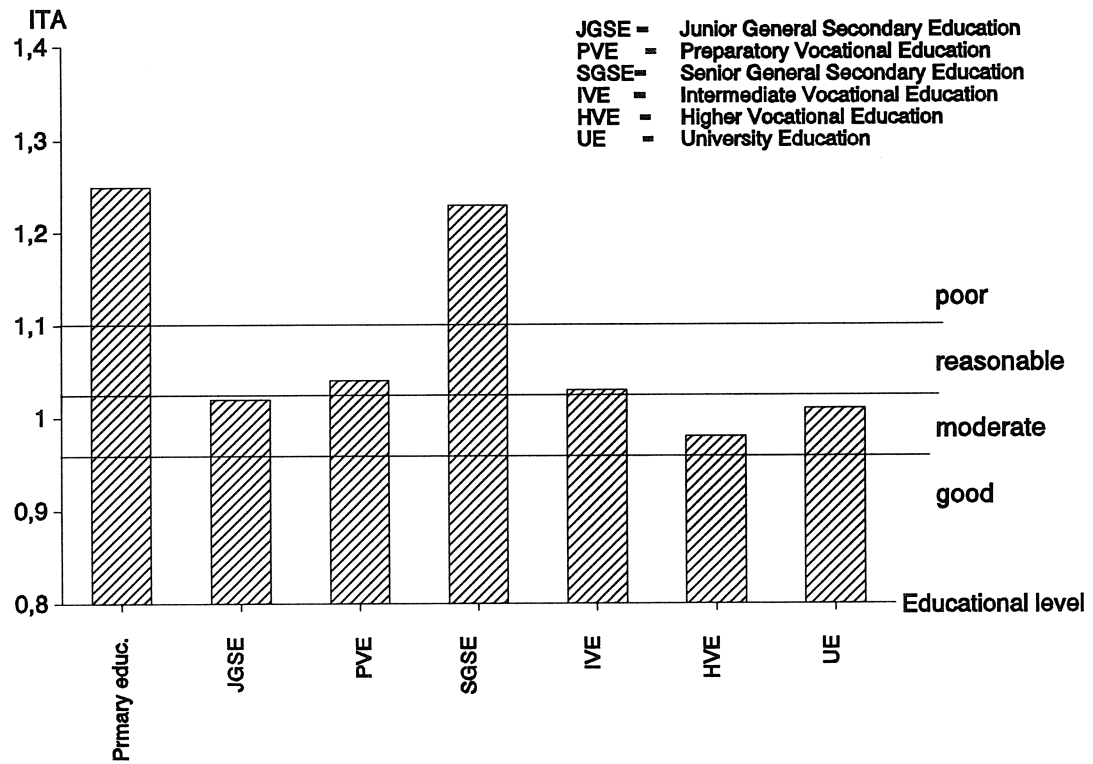
Source: ROA

Figure 7. Expected flows of school-leavers entering the labour market per educational level, 1993-1998



Source: ROA

Figure 8. Expected future labour market prospects per educational level, 1993-1998



Source: ROA

Table 14. Numbers of workers per type of education, average 1990-1992

SOI code	type of education	number	%	trend
0, 1, 2	PRIMARY EDUCATION			
000-211	Primary education	586,000	10.1	decreasing
3	JUNIOR GENERAL SECONDARY EDUCATION AND PREPARATORY VOCATIONAL EDUCATION (PVE)			
301	Junior General Secondary Education	399,000	6.9	constant
321-329	PVE Agriculture	95,000	1.6	constant
331-339	PVE Technical	512,000	8.9	constant
341-349	PVE Transport and Harbour	39,000	0.7	increasing
361-369	PVE Commerce and Administration	131,000	2.3	decreasing
381-389	PVE Community Care, Hotel and Catering	209,000	3.6	constant
391-394	PVE Security	7,000	0.1	increasing
4	SENIOR GENERAL SECONDARY EDUCATION AND INTERMEDIATE VOCATIONAL EDUCATION (IVE)			
401	Senior General Secondary Education	279,000	4.8	increasing
421-429	IVE Agriculture	122,000	2.1	constant
431	IVE Non-medical Laboratory	13,000	0.2	decreasing
436-439	IVE Engineering	679,000	11.7	constant
441-449	IVE Transport and Harbour	44,000	0.8	constant
452	IVE Medical Laboratory	22,000	0.4	constant
451, 454	IVE Nursing and Paramedical services	173,000	3.0	constant
453.461-464	IVE Commerce and Administration	666,000	11.5	constant
466	IVE Administrative, Legal and Fiscal	46,000	0.8	increasing
471	IVE Social and Cultural	44,000	0.8	increasing
481.484.486	IVE Community Care	212,000	3.7	constant
483	IVE Hotel, Catering and Hairdressers	47,000	0.8	constant
491-494	IVE Police, Fire and Defense Forces	87,000	1.5	constant
5	HIGHER VOCATIONAL EDUCATION (HVE)			
506	HVE Teacher training	243,000	4.2	constant
511	HVE Interpreter and Translator	6,000	0.1	constant
521-529	HVE Agriculture	16,000	0.3	increasing
531	HVE Non-medical Laboratory	29,000	0.5	constant
536-539	HVE Engineering	118,000	2.0	constant
541-549	HVE Transport and Harbour	26,000	0.4	constant
552	HVE Medical Laboratory	19,000	0.3	constant
551, 554	HVE Nursing and Paramedic	78,000	1.3	increasing
561	HVE Commerce and Administration	172,000	3.0	increasing
562	HVE Business Administration Technology	11,000	0.2	increasing
566	HVE Administrative, Legal and Fiscal	20,000	0.3	constant
571	HVE Social and Cultural	104,000	1.8	increasing
586	HVE Fine Arts	34,000	0.6	constant
591-594	HVE Police, Fire and Defense Forces	10,000	0.2	constant

Table 14. Numbers of workers per type of education, average 1990-1992 (continued)

SOI code	type of education	number	%	trend
6	UNIVERSITY EDUCATION (UE)			
606	UE Teacher training	19,000	0.3	decreasing
611	UE Arts	36,000	0.6	increasing
616	UE Theology	7,000	0.1	decreasing
621-629	UE Agriculture	10,000	0.2	constant
631	UE Mathematics and Natural Sciences	39,000	0.7	constant
636-639	UE Engineering	55,000	0.9	decreasing
651	UE Veterinary and Medical Sciences and Dentistry	48,000	0.8	constant
652	UE Pharmacy	5,000	0.1	increasing
661-662	UE Economics, Econometrics and Business Administration	50,000	0.9	increasing
666	UE Law and Public Administration	50,000	0.9	increasing
671	UE Social Sciences	74,000	1.3	constant
686	UE Fine Arts	5,000	0.1	decreasing
	Total	5,775,000		

Source: CBS/ROA

Table 15. Numbers of workers per type of education by gender, average 1990-1992

SOI code	type of education	men	women	total
0, 1, 2	PRIMARY EDUCATION			
000-211	Primary education	415,000	171,000	586,000
3	JUNIOR GENERAL SECONDARY EDUCATION AND PREPARATORY VOCATIONAL EDUCATION (PVE)			
301	Junior General Secondary Education	206,000	193,000	399,000
321-329	PVE Agriculture	88,000	7,000	95,000
331-339	PVE Technical	486,000	26,000	512,000
341-349	PVE Transport and Harbour	39,000	.	39,000
361-369	PVE Commerce and Administration	58,000	73,000	131,000
381-389	PVE Community Care, Hotel and Catering	23,000	186,000	209,000
391-394	PVE Security	7,000	.	7,000
4	SENIOR GENERAL SECONDARY EDUCATION AND INTERMEDIATE VOCATIONAL EDUCATION (IVE)			
401	Senior General Secondary Education	157,000	122,000	279,000
421-429	IVE Agriculture	110,000	12,000	122,000
431	IVE Non-medical Laboratory	8,000	5,000	13,000
436-439	IVE Engineering	641,000	38,000	679,000
441-449	IVE Transport and Harbour	40,000	4,000	44,000
452	IVE Medical Laboratory	4,000	18,000	22,000
451, 454	IVE Nursing and Paramedical services	20,000	153,000	173,000
453.461-464	IVE Commerce and Administration	396,000	270,000	666,000
466	IVE Administrative, Legal and Fiscal	35,000	11,000	46,000
471	IVE Social and Cultural	16,000	28,000	44,000
481.484.486	IVE Community Care	34,000	178,000	212,000
483	IVE Hotel, Catering and Hairdressers	21,000	26,000	47,000
491-494	IVE Police, Fire and Defense Forces	82,000	5,000	87,000
5	HIGHER VOCATIONAL EDUCATION (HVE)			
506	HVE Teacher training	116,000	127,000	243,000
511	HVE Interpreter and Translator	3,000	3,000	6,000
521-529	HVE Agriculture	14,000	2,000	16,000
531	HVE Non-medical Laboratory	19,000	10,000	29,000
536-539	HVE Engineering	114,000	4,000	118,000
541-549	HVE Transport and Harbour	26,000	.	26,000
552	HVE Medical Laboratory	5,000	14,000	19,000
551, 554	HVE Nursing and Paramedic	22,000	56,000	78,000
561	HVE Commerce and Administration	97,000	75,000	172,000
562	HVE Business Administration Technology	11,000	.	11,000
566	HVE Administrative, Legal and Fiscal	17,000	3,000	20,000
571	HVE Social and Cultural	47,000	57,000	104,000
586	HVE Fine Arts	20,000	14,000	34,000
591-594	HVE Police, Fire and Defense Forces	10,000	.	10,000

Table 15. Numbers of workers per type of education by gender, average 1990-1992 (continued)

SOI code	type of education	men	women	total
6	UNIVERSITY EDUCATION (UE)			
606	UE Teacher training	12,000	7,000	19,000
611	UE Arts	19,000	17,000	36,000
616	UE Theology	7,000	.	7,000
621-629	UE Agriculture	10,000	.	10,000
631	UE Mathematics and Natural Sciences	33,000	6,000	39,000
636-639	UE Engineering	52,000	3,000	55,000
651	UE Veterinary and Medical Sciences and Dentistry	36,000	12,000	48,000
652	UE Pharmacy	5,000	.	5,000
661-662	UE Economics, Econometrics and Business Administration	45,000	5,000	50,000
666	UE Law and Public Administration	35,000	15,000	50,000
671	UE Social Sciences	42,000	32,000	74,000
686	UE Fine Arts	2,000	3,000	5,000
	Total	3,744,000	2,031,000	5,775,000

Source: CBS/ROA

Table 16. Percentage of under-utilization per type of education, 1992

SOI code	type of education	%	characterization
0, 1, 2	PRIMARY EDUCATION		
000-211	Primary education	-	not applicable
3	JUNIOR GENERAL SECONDARY EDUCATION AND PREPARATORY VOCATIONAL EDUCATION (PVE)		
301	Junior General Secondary Education	37	average
321-329	PVE Agriculture	49	high
331-339	PVE Technical	40	average
341-349	PVE Transport and Harbour	81	very high
361-369	PVE Commerce and Administration	41	average
381-389	PVE Community Care, Hotel and Catering	58	high
391-394	PVE Security	80	very high
4	SENIOR GENERAL SECONDARY EDUCATION AND INTERMEDIATE VOCATIONAL EDUCATION (IVE)		
401	Senior General Secondary Education	41	average
421-429	IVE Agriculture	47	high
431	IVE Non-medical Laboratory	21	low
436-439	IVE Engineering	35	average
441-449	IVE Transport and Harbour	54	high
452	IVE Medical Laboratory	11	low
451, 454	IVE Nursing and Paramedical services	12	low
453.461-464	IVE Commerce and Administration	34	average
466	IVE Administrative, Legal and Fiscal	34	average
471	IVE Social and Cultural	37	average
481.484.486	IVE Community Care	57	high
483	IVE Hotel, Catering and Hairdressers	31	average
491-494	IVE Police, Fire and Defense Forces	53	high
5	HIGHER VOCATIONAL EDUCATION (HVE)		
506	HVE Teacher training	14	low
511	HVE Interpreter and Translator	19	low
521-529	HVE Agriculture	27	average
531	HVE Non-medical Laboratory	11	low
536-539	HVE Engineering	11	low
541-549	HVE Transport and Harbour	42	average
552	HVE Medical Laboratory	9	low
551, 554	HVE Nursing and Paramedic	9	low
561	HVE Commerce and Administration	47	high
562	HVE Business Administration Technology	27	average
566	HVE Administrative, Legal and Fiscal	36	average
571	HVE Social and Cultural	23	low
586	HVE Fine Arts	19	low
591-594	HVE Police, Fire and Defense Forces	64	very high

Table 16. Percentage of under-utilization per type of education, 1992 (continued)

SOI code	type of education	%	characterization
6	UNIVERSITY EDUCATION (UE)		
606	UE Teacher training	11	low
611	UE Arts	25	average
616	UE Theology	15	low
621-629	UE Agriculture	18	low
631	UE Mathematics and Natural Sciences	15	low
636-639	UE Engineering	24	average
651	UE Veterinary and Medical Sciences and Dentistry	6	very low
652	UE Pharmacy	7	very low
661-662	UE Economics, Econometrics and Business Administration	22	low
666	UE Law and Public Administration	16	low
671	UE Social Sciences	34	average
686	UE Fine Arts	47	high

Source: ROA

Table 17. Opportunities of switching to other business sectors per type of education, average 1990-1992

SOI code	type of education	dispersion index	characterization
0, 1, 2	PRIMARY EDUCATION		
000-211	Primary education	0.98	very large
3	JUNIOR GENERAL SECONDARY EDUCATION AND PREPARATORY VOCATIONAL EDUCATION (PVE)		
301	Junior General Secondary Education	0.98	very large
321-329	PVE Agriculture	0.72	small
331-339	PVE Technical	0.96	very large
341-349	PVE Transport and Harbour	0.82	average
361-369	PVE Commerce and Administration	0.97	very large
381-389	PVE Community Care, Hotel and Catering	0.95	large
391-394	PVE Security	0.91	large
4	SENIOR GENERAL SECONDARY EDUCATION AND INTERMEDIATE VOCATIONAL EDUCATION (IVE)		
401	Senior General Secondary Education	0.97	very large
421-429	IVE Agriculture	0.66	small
431	IVE Non-medical Laboratory	0.92	large
436-439	IVE Engineering	0.97	very large
441-449	IVE Transport and Harbour	0.95	large
452	IVE Medical Laboratory	0.78	small
451, 454	IVE Nursing and Paramedical services	0.48	very small
453.461-464	IVE Commerce and Administration	0.97	very large
466	IVE Administrative, Legal and Fiscal	0.47	very small
471	IVE Social and Cultural	0.88	average
481.484.486	IVE Community Care	0.87	average
483	IVE Hotel, Catering and Hairdressers	0.84	average
491-494	IVE Police, Fire and Defense Forces	0.57	small
5	HIGHER VOCATIONAL EDUCATION (HVE)		
506	HVE Teacher training	0.55	small
511	HVE Interpreter and Translator	0.87	average
521-529	HVE Agriculture	0.90	average
531	HVE Non-medical Laboratory	0.93	large
536-539	HVE Engineering	0.93	large
541-549	HVE Transport and Harbour	0.95	large
552	HVE Medical Laboratory	0.47	very small
551, 554	HVE Nursing and Paramedic	0.37	very small
561	HVE Commerce and Administration	0.94	large
562	HVE Business Administration Technology	0.95	large
566	HVE Administrative, Legal and Fiscal	0.70	small
571	HVE Social and Cultural	0.88	average
586	HVE Fine Arts	0.81	average
591-594	HVE Police, Fire and Defense Forces	0.36	very small

Table 17. Opportunities of switching to other business sectors per type of education, average 1990-1992 (continued)

SOI code	type of education	dispersion index	characterization
6	UNIVERSITY EDUCATION (UE)		
606	UE Teacher training	0.47	very small
611	UE Arts	0.73	small
616	UE Theology	0.63	small
621-629	UE Agriculture	0.86	average
631	UE Mathematics and Natural Sciences	0.83	average
636-639	UE Engineering	0.88	average
651	UE Veterinary and Medical Sciences and Dentistry	0.36	very small
652	UE Pharmacy	0.73	small
661-662	UE Economics, Econometrics and Business Administration	0.89	average
666	UE Law and Public Administration	0.81	average
671	UE Social Sciences	0.87	average
686	UE Fine Arts	0.80	average

Source: ROA

Table 18. Opportunities of switching to other occupational groups at a corresponding or higher function level per type of education, average 1990-1992

SOI code	type of education	dispersion index	characterization
0, 1, 2	PRIMARY EDUCATION		
000-211	Primary education	0.98	very large
3	JUNIOR GENERAL SECONDARY EDUCATION AND PREPARATORY VOCATIONAL EDUCATION (PVE)		
301	Junior General Secondary Education	0.95	large
321-329	PVE Agriculture	0.74	small
331-339	PVE Technical	0.97	very large
341-349	PVE Transport and Harbour	0.96	large
361-369	PVE Commerce and Administration	0.92	large
381-389	PVE Community Care, Hotel and Catering	0.93	large
391-394	PVE Security	0.92	large
4	SENIOR GENERAL SECONDARY EDUCATION AND INTERMEDIATE VOCATIONAL EDUCATION (IVE)		
401	Senior General Secondary Education	0.95	large
421-429	IVE Agriculture	0.75	small
431	IVE Non-medical Laboratory	0.70	very small
436-439	IVE Engineering	0.97	very large
441-449	IVE Transport and Harbour	0.95	large
452	IVE Medical Laboratory	0.71	small
451, 454	IVE Nursing and Paramedical services	0.74	small
453.461-464	IVE Commerce and Administration	0.95	large
466	IVE Administrative, Legal and Fiscal	0.79	small
471	IVE Social and Cultural	0.90	average
481.484.486	IVE Community Care	0.89	average
483	IVE Hotel, Catering and Hairdressers	0.82	average
491-494	IVE Police, Fire and Defense Forces	0.86	average
5	HIGHER VOCATIONAL EDUCATION (HVE)		
506	HVE Teacher training	0.82	average
511	HVE Interpreter and Translator	0.88	average
521-529	HVE Agriculture	0.95	large
531	HVE Non-medical Laboratory	0.83	average
536-539	HVE Engineering	0.96	large
541-549	HVE Transport and Harbour	0.95	large
552	HVE Medical Laboratory	0.71	small
551, 554	HVE Nursing and Paramedic	0.76	small
561	HVE Commerce and Administration	0.93	large
562	HVE Business Administration Technology	0.93	large
566	HVE Administrative, Legal and Fiscal	0.90	average
571	HVE Social and Cultural	0.84	average
586	HVE Fine Arts	0.87	average
591-594	HVE Police, Fire and Defense Forces	0.84	average

Table 18. Opportunities of switching to other occupational groups at a corresponding or higher function level per type of education, average 1990-1992 (continued)

SOI code	type of education	dispersion index	characterization
6	UNIVERSITY EDUCATION (UE)		
606	UE Teacher training	0.73	small
611	UE Arts	0.75	small
616	UE Theology	0.59	very small
621-629	UE Agriculture	0.94	large
631	UE Mathematics and Natural Sciences	0.90	average
636-639	UE Engineering	0.96	large
651	UE Veterinary and Medical Sciences and Dentistry	0.51	very small
652	UE Pharmacy	0.62	very small
661-662	UE Economics, Econometrics and Business Administration	0.90	average
666	UE Law and Public Administration	0.84	average
671	UE Social Sciences	0.90	average
686	UE Fine Arts	0.88	average

Source: ROA

Table 19. Expected expansion demand per type of education, 1993-1998

SOI code	type of education	total number	total %	annual average %	characterization
0, 1, 2	PRIMARY EDUCATION				
000-211	Primary education	-61,700	-11	-2.2	very low
3	JUNIOR GENERAL SECONDARY EDUCATION AND PREPARATORY VOCATIONAL EDUCATION (PVE)				
301	Junior General Secondary Education	-13,400	-3	-0.6	very low
321-329	PVE Agriculture	-2,700	-3	-0.6	very low
331-339	PVE Technical	-12,700	-2	-0.5	low
341-349	PVE Transport and Harbour	-300	-1	-0.1	low
361-369	PVE Commerce and Administration	-3,500	-3	-0.6	very low
381-389	PVE Community Care, Hotel and Catering	-1,800	-1	-0.2	low
391-394	PVE Security	900	19	3.5	very high
4	SENIOR GENERAL SECONDARY EDUCATION AND INTERMEDIATE VOCATIONAL EDUCATION (IVE)				
401	Senior General Secondary Education	15,200	5	1.0	average
421-429	IVE Agriculture	6,800	5	1.0	average
431	IVE Non-medical Laboratory	700	6	1.1	average
436-439	IVE Engineering	37,300	5	1.0	average
441-449	IVE Transport and Harbour	2,900	6	1.2	average
452	IVE Medical Laboratory	1,700	8	1.5	average
451, 454	IVE Nursing and Paramedical services	16,600	9	1.8	average
453.461-464	IVE Commerce and Administration	31,900	5	0.9	average
466	IVE Administrative, Legal and Fiscal	1,000	2	0.4	low
471	IVE Social and Cultural	1,900	5	0.9	average
481.484.486	IVE Community Care	17,300	8	1.6	average
483	IVE Hotel, Catering and Hairdressers	1,700	4	0.8	low
491-494	IVE Police, Fire and Defense Forces	10,100	13	2.5	average
5	HIGHER VOCATIONAL EDUCATION (HVE)				
506	HVE Teacher training	8,600	4	0.7	low
511	HVE Interpreter and Translator	500	8	1.6	average
521-529	HVE Agriculture	1,700	10	2.0	average
531	HVE Non-medical Laboratory	3,800	13	2.5	average
536-539	HVE Engineering	15,300	13	2.5	average
541-549	HVE Transport and Harbour	3,600	13	2.5	average
552	HVE Medical Laboratory	2,600	13	2.4	average
551, 554	HVE Nursing and Paramedic	12,200	16	3.0	high
561	HVE Commerce and Administration	24,500	14	2.6	high
562	HVE Business Administration Technology	1,100	15	2.8	high
566	HVE Administrative, Legal and Fiscal	1,900	10	2.0	average
571	HVE Social and Cultural	11,700	11	2.2	average
586	HVE Fine Arts	5,400	16	3.0	high
591-594	HVE Police, Fire and Defense Forces	700	8	1.6	average

Table 19. Expected expansion demand per type of education, 1993-1998 (continued)

SOI code	type of education	total number	total %	annual average %	character- ization
6	UNIVERSITY EDUCATION (UE)				
606	UE Teacher training	700	4	0.9	low
611	UE Arts	3,100	10	2.0	average
616	UE Theology	900	13	2.5	average
621-629	UE Agriculture	1,200	15	2.9	high
631	UE Mathematics and Natural Sciences	5,500	14	2.7	high
636-639	UE Engineering	10,100	19	3.6	very high
651	UE Veterinary and Medical Sciences and Dentistry	6,600	13	2.4	average
652	UE Pharmacy	600	12	2.3	average
661-662	UE Economics, Econometrics and Business Administration	10,400	22	4.0	very high
666	UE Law and Public Administration	8,400	16	2.9	high
671	UE Social Sciences	10,900	16	3.0	high
686	UE Fine Arts	400	18	3.4	very high

Source: ROA

Table 20. Expected replacement demand per type of education, 1993-1998

SOI code	type of education	total number	total %	annual average %	characterization
0, 1, 2	PRIMARY EDUCATION				
000-211	Primary education	60,900	10	2.0	low
3	JUNIOR GENERAL SECONDARY EDUCATION AND PREPARATORY VOCATIONAL EDUCATION (PVE)				
301	Junior General Secondary Education	94,100	22	4.1	very high
321-329	PVE Agriculture	18,200	19	3.5	high
331-339	PVE Technical	74,300	14	2.7	average
341-349	PVE Transport and Harbour	2,800	7	1.3	very low
361-369	PVE Commerce and Administration	19,300	16	2.9	average
381-389	PVE Community Care, Hotel and Catering	58,300	27	4.9	very high
391-394	PVE Security	700	15	2.8	average
4	SENIOR GENERAL SECONDARY EDUCATION AND INTERMEDIATE VOCATIONAL EDUCATION (IVE)				
401	Senior General Secondary Education	51,200	18	3.3	average
421-429	IVE Agriculture	18,400	14	2.7	average
431	IVE Non-medical Laboratory	1,800	15	2.9	average
436-439	IVE Engineering	88,500	13	2.4	average
441-449	IVE Transport and Harbour	10,100	21	3.9	high
452	IVE Medical Laboratory	3,900	18	3.4	average
451, 454	IVE Nursing and Paramedical services	27,100	15	2.8	average
453.461-464	IVE Commerce and Administration	115,100	16	3.1	average
466	IVE Administrative, Legal and Fiscal	4,800	10	1.9	low
471	IVE Social and Cultural	6,800	17	3.2	average
481.484.486	IVE Community Care	36,900	17	3.2	average
483	IVE Hotel, Catering and Hairdressers	6,100	15	2.8	average
491-494	IVE Police, Fire and Defense Forces	8,700	11	2.2	low
5	HIGHER VOCATIONAL EDUCATION (HVE)				
506	HVE Teacher training	35,700	15	2.8	average
511	HVE Interpreter and Translator	1,300	20	3.8	high
521-529	HVE Agriculture	2,100	13	2.4	average
531	HVE Non-medical Laboratory	2,700	9	1.8	low
536-539	HVE Engineering	19,200	16	3.1	average
541-549	HVE Transport and Harbour	5,900	22	4.0	very high
552	HVE Medical Laboratory	2,200	11	2.1	low
551, 554	HVE Nursing and Paramedic	6,400	8	1.6	very low
561	HVE Commerce and Administration	13,500	8	1.5	very low
562	HVE Business Administration Technology	200	2	0.5	very low
566	HVE Administrative, Legal and Fiscal	2,400	13	2.4	average
571	HVE Social and Cultural	9,900	10	1.9	low
586	HVE Fine Arts	4,400	13	2.5	average
591-594	HVE Police, Fire and Defense Forces	800	8	1.6	very low

Table 20. Expected replacement demand per type of education, 1993-1998 (continued)

SOI code	type of education	total number	total %	annual average %	character- ization
6	UNIVERSITY EDUCATION (UE)				
606	UE Teacher training	2,100	13	2.5	average
611	UE Arts	4,700	16	2.9	average
616	UE Theology	1,200	19	3.5	high
621-629	UE Agriculture	1,000	12	2.3	low
631	UE Mathematics and Natural Sciences	5,600	14	2.7	average
636-639	UE Engineering	8,000	15	2.9	average
651	UE Veterinary and Medical Sciences and Dentistry	8,300	16	3.0	average
652	UE Pharmacy	700	15	2.8	average
661-662	UE Economics, Econometrics and Business Administration	5,500	11	2.2	low
666	UE Law and Public Administration	4,500	8	1.6	very low
671	UE Social Sciences	8,500	12	2.4	low
686	UE Fine Arts	300	13	2.5	average

Source: ROA

Table 21. Expected job openings per type of education, 1993-1998

SOI code	type of education	total number	total %	annual average %	characterization
0, 1, 2	PRIMARY EDUCATION				
000-211	Primary education	60,900	10	2.0	very low
3	JUNIOR GENERAL SECONDARY EDUCATION AND PREPARATORY VOCATIONAL EDUCATION (PVE)				
301	Junior General Secondary Education	94,100	22	4.1	average
321-329	PVE Agriculture	18,200	19	3.5	low
331-339	PVE Technical	74,300	14	2.7	very low
341-349	PVE Transport and Harbour	2,800	7	1.3	very low
361-369	PVE Commerce and Administration	19,600	16	2.9	low
381-389	PVE Community Care, Hotel and Catering	58,300	27	4.9	average
391-394	PVE Security	1,600	33	5.9	very high
4	SENIOR GENERAL SECONDARY EDUCATION AND INTERMEDIATE VOCATIONAL EDUCATION (IVE)				
401	Senior General Secondary Education	66,500	23	4.2	average
421-429	IVE Agriculture	25,200	20	3.7	low
431	IVE Non-medical Laboratory	2,600	21	3.9	average
436-439	IVE Engineering	125,900	18	3.4	low
441-449	IVE Transport and Harbour	13,100	27	5.0	average
452	IVE Medical Laboratory	5,500	26	4.7	average
451, 454	IVE Nursing and Paramedical services	43,800	24	4.4	average
453,461-464	IVE Commerce and Administration	147,000	21	3.9	average
466	IVE Administrative, Legal and Fiscal	5,800	12	2.2	very low
471	IVE Social and Cultural	8,800	22	4.0	average
481,484,486	IVE Community Care	54,200	25	4.6	average
483	IVE Hotel, Catering and Hairdressers	7,800	19	3.5	low
491-494	IVE Police, Fire and Defense Forces	18,800	24	4.5	average
5	HIGHER VOCATIONAL EDUCATION (HVE)				
506	HVE Teacher training	44,300	18	3.4	low
511	HVE Interpreter and Translator	1,900	29	5.2	high
521-529	HVE Agriculture	3,800	23	4.2	average
531	HVE Non-medical Laboratory	6,500	22	4.1	average
536-539	HVE Engineering	34,500	29	5.3	high
541-549	HVE Transport and Harbour	9,600	35	6.2	very high
552	HVE Medical Laboratory	4,800	24	4.3	average
551, 554	HVE Nursing and Paramedic	18,600	24	4.4	average
561	HVE Commerce and Administration	38,000	21	3.9	average
562	HVE Business Administration Technology	1,200	17	3.2	low
566	HVE Administrative, Legal and Fiscal	4,300	23	4.2	average
571	HVE Social and Cultural	21,600	21	3.9	average
586	HVE Fine Arts	9,800	29	5.2	high
591-594	HVE Police, Fire and Defense Forces	1,500	16	3.1	low

Table 21. Expected job openings per type of education, 1993-1998 (continued)

SOI code	type of education	total number	total %	annual average %	characterization
6	UNIVERSITY EDUCATION (UE)				
606	UE Teacher training	2,800	18	3.3	low
611	UE Arts	7,800	26	4.7	average
616	UE Theology	2,100	32	5.8	high
621-629	UE Agriculture	2,200	27	4.9	average
631	UE Mathematics and Natural Sciences	11,000	29	5.2	high
636-639	UE Engineering	18,200	35	6.1	very high
651	UE Veterinary and Medical Sciences and Dentistry	14,900	28	5.1	high
652	UE Pharmacy	1,300	27	4.9	average
661-662	UE Economics, Econometrics and Business Administration	15,900	33	5.9	high
666	UE Law and Public Administration	12,900	24	4.4	average
671	UE Social Sciences	19,400	28	5.1	high
686	UE Fine Arts	700	31	5.6	high

Source: ROA

Table 22. Break-down of expected job openings into expansion and replacement demand per type of education, 1993-1998

SOI code		expansion demand (%)	replacement demand (%)
0, 1, 2	PRIMARY EDUCATION		
000-211	Primary education	0	100
3	JUNIOR GENERAL SECONDARY EDUCATION AND PREPARATORY VOCATIONAL EDUCATION (PVE)		
301	Junior General Secondary Education	0	100
321-329	PVE Agriculture	0	100
331-339	PVE Technical	0	100
341-349	PVE Transport and Harbour	0	100
361-369	PVE Commerce and Administration	0	100
381-389	PVE Community Care, Hotel and Catering	0	100
391-394	PVE Security	56	44
4	SENIOR GENERAL SECONDARY EDUCATION AND INTERMEDIATE VOCATIONAL EDUCATION (IVE)		
401	Senior General Secondary Education	23	77
421-429	IVE Agriculture	27	73
431	IVE Non-medical Laboratory	28	72
436-439	IVE Engineering	30	70
441-449	IVE Transport and Harbour	22	78
452	IVE Medical Laboratory	30	70
451, 454	IVE Nursing and Paramedical services	38	62
453.461-464	IVE Commerce and Administration	22	78
466	IVE Administrative, Legal and Fiscal	17	83
471	IVE Social and Cultural	22	78
481.484.486	IVE Community Care	32	68
483	IVE Hotel, Catering and Hairdressers	22	78
491-494	IVE Police, Fire and Defense Forces	54	46
5	HIGHER VOCATIONAL EDUCATION (HVE)		
506	HVE Teacher training	19	81
511	HVE Interpreter and Translator	29	71
521-529	HVE Agriculture	45	55
531	HVE Non-medical Laboratory	59	41
536-539	HVE Engineering	44	56
541-549	HVE Transport and Harbour	38	62
552	HVE Medical Laboratory	54	46
551, 554	HVE Nursing and Paramedic	66	34
561	HVE Commerce and Administration	65	35
562	HVE Business Administration Technology	86	14
566	HVE Administrative, Legal and Fiscal	45	55
571	HVE Social and Cultural	54	46
586	HVE Fine Arts	55	45
591-594	HVE Police, Fire and Defense Forces	49	51

Table 22. Break-down of expected job openings into expansion and replacement demand per type of education, 1993-1998 (continued)

SOI code		expansion demand (%)	replacement demand (%)
6	UNIVERSITY EDUCATION (UE)		
606	UE Teacher training	25	75
611	UE Arts	40	60
616	UE Theology	41	59
621-629	UE Agriculture	56	44
631	UE Mathematics and Natural Sciences	50	50
636-639	UE Engineering	56	44
651	UE Veterinary and Medical Sciences and Dentistry	44	56
652	UE Pharmacy	44	56
661-662	UE Economics, Econometrics and Business Administration	65	35
666	UE Law and Public Administration	65	35
671	UE Social Sciences	56	44
686	UE Fine Arts	58	42

Source: ROA

Table 23. Expected flows of school-leavers entering the labour market per type of education, 1993-1998

SOI code	type of education	total number	total %	annual average %	characterization
0, 1, 2	PRIMARY EDUCATION				
000-211	Primary education	66,100	12	2.2	low
3	JUNIOR GENERAL SECONDARY EDUCATION AND PREPARATORY VOCATIONAL EDUCATION (PVE)				
301	Junior General Secondary Education	42,700	11	2.0	low
321-329	PVE Agriculture	5,800	6	1.2	very low
331-339	PVE Technical	59,200	12	2.3	low
341-349	PVE Transport and Harbour	1,200	3	0.6	very low
361-369	PVE Commerce and Administration	18,900	15	2.8	low
381-389	PVE Community Care, Hotel and Catering	27,500	13	2.6	low
391-394	PVE Security	3,300	41	7.1	very high
4	SENIOR GENERAL SECONDARY EDUCATION AND INTERMEDIATE VOCATIONAL EDUCATION (IVE)				
401	Senior General Secondary Education	115,300	38	6.7	high
421-429	IVE Agriculture	19,200	16	3.0	average
431	IVE Non-medical Laboratory	1,400	13	2.5	low
436-439	IVE Engineering	139,200	20	3.7	average
441-449	IVE Transport and Harbour	8,200	19	3.5	average
452	IVE Medical Laboratory	1,600	7	1.3	very low
451, 454	IVE Nursing and Paramedical services	44,100	25	4.6	average
453.461-464	IVE Commerce and Administration	149,900	23	4.2	average
466	IVE Administrative, Legal and Fiscal	2,800	6	1.1	very low
471	IVE Social and Cultural	20,200	42	7.3	very high
481.484.486	IVE Community Care	35,800	17	3.2	average
483	IVE Hotel, Catering and Hairdressers	12,600	27	4.9	high
491-494	IVE Police, Fire and Defense Forces	17,200	20	3.8	average
5	HIGHER VOCATIONAL EDUCATION (HVE)				
506	HVE Teacher training	33,500	13	2.5	low
511	HVE Interpreter and Translator	1,000	20	3.7	average
521-529	HVE Agriculture	5,600	33	5.9	high
531	HVE Non-medical Laboratory	5,000	19	3.5	average
536-539	HVE Engineering	27,900	23	4.2	average
541-549	HVE Transport and Harbour	2,000	8	1.6	very low
552	HVE Medical Laboratory	2,500	14	2.7	low
551, 554	HVE Nursing and Paramedic	21,800	26	4.8	high
561	HVE Commerce and Administration	35,700	19	3.6	average
562	HVE Business Administration Technology	3,800	29	5.2	high
566	HVE Administrative, Legal and Fiscal	4,200	21	3.9	average
571	HVE Social and Cultural	21,600	19	3.6	average
586	HVE Fine Arts	7,600	22	4.1	average
591-594	HVE Police, Fire and Defense Forces	2,200	22	4.0	average

Table 23. Expected flows of school-leavers entering the labour market per type of education, 1993-1998 (continued)

SOI code	type of education	total number	total %	annual average %	characterization
6	UNIVERSITY EDUCATION (UE)				
606	UE Teacher training	3,800	20	3.8	average
611	UE Arts	15,000	38	6.6	high
616	UE Theology	900	12	2.3	low
621-629	UE Agriculture	4,500	50	8.5	very high
631	UE Mathematics and Natural Sciences	7,900	21	3.9	average
636-639	UE Engineering	18,100	34	6.0	high
651	UE Veterinary and Medical Sciences and Dentistry	6,400	13	2.5	low
652	UE Pharmacy	1,300	26	4.7	high
661-662	UE Economics, Econometrics and Business Administration	17,800	32	5.8	high
666	UE Law and Public Administration	16,400	30	5.4	high
671	UE Social Sciences	27,500	36	6.3	high
686	UE Fine Arts	3,300	66	10.6	very high

Source: ROA

Table 24. Expected labour market prospects per type of education, 1993-1998

SOI code	type of education	indicator of future labour market prospects	characterization
0, 1, 2	PRIMARY EDUCATION		
000-211	Primary education	1.25	poor
3	JUNIOR GENERAL SECONDARY EDUCATION AND PREPARATORY VOCATIONAL EDUCATION (PVE)		
301	Junior General Secondary Education	1.02	reasonable
321-329	PVE Agriculture	0.96	good
331-339	PVE Technical	1.07	moderate
341-349	PVE Transport and Harbour	1.01	reasonable
361-369	PVE Commerce and Administration	1.09	moderate
381-389	PVE Community Care, Hotel and Catering	0.97	reasonable
391-394	PVE Security	1.03	reasonable
4	SENIOR GENERAL SECONDARY EDUCATION AND INTERMEDIATE VOCATIONAL EDUCATION (IVE)		
401	Senior General Secondary Education	1.23	poor
421-429	IVE Agriculture	1.00	reasonable
431	IVE Non-medical Laboratory	0.96	good
436-439	IVE Engineering	1.04	moderate
441-449	IVE Transport and Harbour	0.97	reasonable
452	IVE Medical Laboratory	0.84	good
451, 454	IVE Nursing and Paramedical services	1.02	reasonable
453,461-464	IVE Commerce and Administration	1.04	moderate
466	IVE Administrative, Legal and Fiscal	0.96	good
471	IVE Social and Cultural	1.21	poor
481,484,486	IVE Community Care	0.98	reasonable
483	IVE Hotel, Catering and Hairdressers	1.08	moderate
491-494	IVE Police, Fire and Defense Forces	0.98	reasonable
5	HIGHER VOCATIONAL EDUCATION (HVE)		
506	HVE Teacher training	0.97	reasonable
511	HVE Interpreter and Translator	0.99	reasonable
521-529	HVE Agriculture	1.09	moderate
531	HVE Non-medical Laboratory	0.96	good
536-539	HVE Engineering	0.96	good
541-549	HVE Transport and Harbour	0.81	good
552	HVE Medical Laboratory	0.87	good
551, 554	HVE Nursing and Paramedic	0.99	reasonable
561	HVE Commerce and Administration	0.98	reasonable
562	HVE Business Administration Technology	1.09	moderate
566	HVE Administrative, Legal and Fiscal	0.98	reasonable
571	HVE Social and Cultural	1.00	reasonable
586	HVE Fine Arts	1.04	moderate
591-594	HVE Police, Fire and Defense Forces	1.00	reasonable

Table 24. Expected labour market prospects per type of education, 1993-1998 (continued)

SOI code	type of education	indicator of future labour market prospects	character- ization
6	UNIVERSITY EDUCATION (UE)		
606	UE Teacher training	1.00	reasonable
611	UE Arts	1.11	poor
616	UE Theology	0.82	good
621-629	UE Agriculture	1.19	poor
631	UE Mathematics and Natural Sciences	0.95	good
636-639	UE Engineering	0.99	reasonable
651	UE Veterinary and Medical Sciences and Dentistry	0.87	good
652	UE Pharmacy	0.92	good
661-662	UE Economics, Econometrics and Business Administration	0.99	reasonable
666	UE Law and Public Administration	1.06	moderate
671	UE Social Sciences	1.08	moderate
686	UE Fine Arts	1.32	poor

Source: ROA

Table 25. Characterization of expected labour market prospects per type of education

0,1,2 PRIMARY EDUCATION

000-211 Primary Education

Although the flows leaving this type of education to enter the labour market are low, the labour market prospects for 'Primary Education' for the coming years are bad. This is due to the strong decline in the demand for labour with 'Primary Education' and by low labour turnover as a result of retirements etc.. However employment for workers with this type of education is very well spread over both occupations and business sectors, so that they are not dependent on a particular occupation or business sector for employment.

3 JUNIOR GENERAL SECONDARY EDUCATION AND PREPARATORY VOCATIONAL EDUCATION

301 Junior General Secondary Education

Unemployment for school-leavers with 'Lower General Secondary Education' does not at present differ much from the average, but employment levels are falling very sharply. However since the flows coming from the education system are low and very many vacancies are created by the high labour turnover, the expected prospects for the next few years are reasonable. The employment for these types of education is also well spread over various occupations and very well spread over the various business sectors, so that it offers a high degree of flexibility in the labour market.

321-329 Preparatory Vocational Education, Agriculture

Preparatory Vocational Education in agriculture is at present linked with low unemployment, and the labour market prospects for the coming years are expected to be good. This is because, although there is a small decline in employment levels, flows entering the market from the education system are very small, plus the fact that many vacancies are created as a result of the retirement of older workers. Workers with this education are however very dependent on the agricultural sector and there are few opportunities of switching to other business sectors.

331-339 Preparatory Vocational Education, Technical

The unemployment for 'Preparatory Vocational Education, Technical' is at present low, but employment is falling. Although the flows leaving the education system are also low, the fall in employment means that the expected labour market prospects for the coming years are moderate. These types of education do offer great flexibility since the employment is spread over very many occupations and very many business sectors.

341-349 Preparatory Vocational Education, Transport and Harbour

The present unemployment level for 'Preparatory Vocational Education, Transport and Harbour' is low. The expected labour market prospects for the coming years are reasonable. Employment is falling slightly and very few vacancies are being created by the retirement of older workers with this education, but the flow from the education system is also very low. People with this type of education are very much dependent on the occupations of drivers and conductors; they have many opportunities of switching to other occupations.

361-369 Preparatory Vocational Education, Commerce and Administration

At the moment, 'Preparatory Vocational Education, Commerce and Administration' has an unemployment rate which is very similar to the average unemployment level. Its labour market prospects for the coming years are expected to be moderate. The flows coming from the education system are low, but a large number of jobs are also disappearing. One advantage of this type of education is that the employment is very well distributed over the business sectors, so that workers are not dependent on a particular business sector.

381-389 Preparatory Vocational Education, Community Care, Hotel and Catering

The unemployment rate for 'Preparatory Vocational Education, Community Care, Hotel and Catering' is at present close to the average unemployment among school-leavers. The expected labour market prospects for this type of education are reasonable. There is, it is true, a small fall in employment levels, but the flows into the market are also small and there is a very large replacement demand because of the large labour turnover for people with this type of education. People with this educational background find work in a large number of business sectors, so that they are not dependent on a single business sector.

391-394 Preparatory Vocational Education, Security

The labour market prospects for the coming years for 'Preparatory Vocational Education, Security' are expected to be reasonable. Both the growth in employment and the flows of school-leavers entering this occupation are very large (this is because quite a lot of people who already have work in the security industry also undertake specific education there). People with this educational background find work in diverse business sectors and are in that respect not very dependent on a particular business sector. On the other hand they are tied to specific security occupations, with many opportunities of switching to other occupations.

4 INTERMEDIATE VOCATIONAL EDUCATION AND SENIOR SECONDARY EDUCATION

401 Senior General Secondary Education

At present the unemployment among school-leavers from 'Higher General Secondary Education' does not differ markedly from the average unemployment among school-leavers, but the large numbers of this group entering the labour market mean that the expected labour market prospects for the coming years are bad. One advantage of these types of education, however, is that employment is not reliant on specific occupations or business sectors, since it is spread over many occupations and very many business sectors.

421-429 Intermediate Vocational Education, Agriculture

The unemployment rate among school-leavers with 'Intermediate Vocational Education, Agriculture' is at present low. The expected labour market prospects for the coming years are reasonable. Work for people with this educational background is however strongly concentrated in the agriculture, fisheries and forestry sector, so that they are very dependent on developments in this sector.

431 Intermediate Vocational Education, Non-medical Laboratory

Unemployment for school-leavers with 'Intermediate Vocational Education, Non-medical Laboratory' does not differ much from the average unemployment among school-leavers. Because of the low flows of students with this educational background entering the labour market, the labour market prospects for the coming years are expected to be good. Employment for workers with this education is spread over various business sectors, so that they are in this respect flexible. They are however very dependent on finding work in the occupational class of chemical engineers and laboratory workers.

436-439 Intermediate Vocational Education, Engineering

The unemployment among school-leavers from 'Intermediate Vocational Education, Engineering' lies at present close to the average unemployment among school-leavers. The expected labour market prospects are moderate. With this educational background, one is very flexible as regards being able to perform many different kinds of work. Employment is very well spread over both business sectors and occupations.

441-449 Intermediate Vocational Education, Transport and Harbour

The unemployment among school-leavers from 'Intermediate Vocational Education, Transport and Harbour' is at present low. The labour market prospects for the coming years are reasonable, due mainly to the large number of those already working with this educational background who will retire. The employment for those with this education is also spread over many occupations and business sectors, so that it is not dependent on the employment in a given occupation or business sector.

452 Intermediate Vocational Education, Medical Laboratory

At the moment, unemployment among school-leavers from 'Intermediate Vocational Education, Medical Laboratory' is low. Because of the very low flows leaving the education system, the labour market prospects for the next few years are expected to be good. Those with this education are however very dependent for employment on the health care sector and on the occupational class of pharmacy assistants, opticians and orthopaedists.

451,454 Intermediate Vocational Education, Nursing and Paramedical Services

The unemployment among school-leavers from 'Intermediate Vocational Education, Nursing and Paramedical Services' is at present low. The expected labour market prospects for the next few years are reasonable. However this education leaves one very dependent on the health care sector for work, and employment is available almost exclusively in the medical and paramedical occupations, such as nursing, home care, and midwifery.

453,461-464 Intermediate Vocational Education, Commerce and Administration

The unemployment among school-leavers with 'Intermediate Vocational Education, Commerce and

Administration' is at present close to the average. The expected labour market prospects are moderate. Employment for those with this educational background is spread over many occupations and very many business sectors, so that employment chances are not dependent on a few specific occupations or business sectors.

466 Intermediate Vocational Education, Administrative, Legal and Fiscal

The unemployment among school-leavers from 'Intermediate Vocational Education, Administrative, Legal and Fiscal' is at present low. Although few new jobs are being created and there is also little labour turnover for people with this educational background, the expected labour market prospects are good. This is due to the very low flows of students coming from the education system. Those with this educational background are dependent for work on a few administrative occupations, and in fact are very dependent on the public administration sector.

471 Intermediate Vocational Education, Social and Cultural

At present, unemployment among school-leavers from 'Intermediate Vocational Education, Social and Cultural' is not very different to the average, but because of the very large flows from the education system, the expected labour market prospects are bad. Although those with this educational background can find employment in only a limited number of occupations and business sectors, there are enough opportunities of switching to ensure that employment is not dependent on a single occupation.

481,484,486 Intermediate Vocational Education, Community Care

The unemployment among school-leavers from 'Intermediate Vocational Education, Community Care' does not at present differ very much from the average. The expected labour market prospects are reasonable. Although those who have completed this type of education can only work in a limited number of occupations and business sectors, there are enough opportunities of switching to ensure that employment is not dependent on a single occupation.

483 Intermediate Vocational Education, Hotel, Catering and Hairdressers

At the moment school-leavers from 'Intermediate Vocational Education, Hotel, Catering and Hairdressers' have a very low unemployment rate. However, because few new jobs are being created and large flows will come from the education system, the expected labour market prospects are moderate. Although those with this educational background can find employment in only a limited number of occupations and business sectors, there are enough switching opportunities to ensure that employment is not dependent on a single occupation.

491-494 Intermediate Vocational Education, Police, Fire and Defense Forces

The labour market prospects for 'Intermediate Vocational Education, Police, Fire and Defense Forces' are expected to be reasonable. Relatively few jobs will be left vacant by labour turnover, because not many people with this educational background will retire in the coming years. Moreover, this education leaves one very dependent for work on the public administration, police and defence forces sector. It is not easy to find work outside this sector.

5 HIGHER VOCATIONAL EDUCATION

506 Higher Vocational Education, Teacher training

At present unemployment among school-leavers who have completed teacher's training in an institute for Higher Vocational Education is very high, but in the coming years the labour market prospects are expected to be reasonable. Few new jobs are being created, but the flows from the education courses are also low. However the prospects can differ widely between the diverse subject-areas within teacher's training. Those who have completed this education are very susceptible to changes in employment levels in the education system, because it is not easy to switch to another occupation or business sector.

511 Higher Vocational Education, Interpreter and Translator

At present those with Higher Vocational Education as interpreters and translators suffer from high unemployment rates. However, because a relatively large number of workers with this educational background withdraw from the labour market, the labour market prospects for the coming years are expected to be reasonable. Although those who have completed this education can find work in only a limited number of occupations and business sectors, there are enough opportunities for switching to ensure that employment is not dependent on a single occupation.

521-529 Higher Vocational Education, Agriculture

Unemployment among school-leavers from 'Higher Vocational Education, Agriculture' is at present high. The labour market prospects for the coming years are expected to be moderate. This is due mainly to the

large flow of school-leavers entering the labour market. One advantage of this educational background is that it is not dependent on changes in employment levels in particular occupations, since it offers fairly easy options for switching to other occupations.

531 Higher Vocational Education, Non-medical Laboratory

Although the unemployment rate for 'Higher Vocational Education, Non-medical Laboratory' is at present high, for the coming years the labour market prospects are expected to be good. One advantage of this education is that it is not vulnerable to changes in employment levels in a particular business sector, but offers fairly easy options for switching to other sectors.

536-539 Higher Vocational Education, Engineering

At the moment 'Higher Vocational Education, Engineering' suffers from high unemployment among its school-leavers, but the labour market prospects for the near future are expected to be good. Furthermore, those with this educational background can find places in very heterogeneous jobs in diverse business sectors, so that they are not dependent on a specific occupation to find work.

541-549 Higher Vocational Education, Transport and Harbour

The unemployment among school-leavers from 'Higher Vocational Education, Transport and Harbour' is low, especially as compared to the average for Higher Vocational Education, and the labour market prospects for the coming years are also expected to be good. This is caused by the very low numbers of students choosing this education course, and by the fact that many jobs will fall vacant in the coming years as many of those with this educational background who are already working will retire. With this education one can also find work in diverse occupations and business sectors, without being dependent on a single occupation.

552 Higher Vocational Education, Medical Laboratory

The current unemployment among school-leavers from 'Higher Vocational Education, Medical Laboratory' is low, as compared with other types of education within Higher Vocational Education. The labour turnover for this education is small, but because the numbers undertaking the course are also low, future labour market prospects are expected to be good. Those with this educational background are however very dependent for their employment on the occupations of medical analyst or laboratory technician and have almost no chance of switching to other occupations or business sectors.

551,554 Higher Vocational Education, Nursing and Paramedics

The unemployment among school-leavers from 'Higher Vocational Education, Nursing and Paramedics' is at present no higher than average and the labour market prospects are expected to be reasonable. This is because, although the coming years will see many new jobs being created for people with this educational background, very many students also take this course. Also, labour turnover is very low, so that not many existing jobs fall vacant. Two additional disadvantages of this education are that the employment is almost entirely dependent on the health care sector and that it is available in only a small number of occupations.

561 Higher Vocational Education, Commerce and Administration

The labour market prospects for 'Higher Vocational Education, Commerce and Administration' are expected to be reasonable. At the moment the unemployment among school-leavers lies at about the average level. In the coming years many new jobs will be created, but relatively many workers with this education are young, so that few existing jobs fall vacant. People who have completed 'Higher Vocational Education, Commerce and Administration' can find work in a reasonable range of occupations, but one particular advantage is that their employment is spread over many business sectors, so that they are not dependent in this respect on the development of a specific business sector.

562 Higher Vocational Education, Business Administration Technology

This type of education is growing rapidly and the high student flows are matched by high demand. The expectation, however, is that this demand will increase less rapidly than the supply, with the net effect that the prospects will deteriorate. This is in part due to the fact that people with this, still recent, educational background have a low labour turnover. New types of education, in particular, have to establish their position on the labour market, in part by penetrating occupations in which people with that background have not previously worked. This process is difficult to predict. The employment which this education offers seems not to be very dependent on specific occupations or business sectors. Unemployment among school-leavers with this educational background has increased rapidly in recent years.

566 Higher Vocational Education, Administrative, Legal and Fiscal

The expectation is that the labour market prospects for 'Higher Vocational Education, Administrative, Legal

and Fiscal' for the coming years will be reasonable. At the moment unemployment among school-leavers from this course is low in comparison with other forms of Higher Vocational Education. The employment opportunities for those with this education are divided over a reasonable number of occupations, but they are very dependent on the government sector for work.

571 Higher Vocational Education, Social and Cultural

Although the unemployment among school-leavers from 'Higher Vocational Education, Social and Cultural' is at present high, the prospects for this education for the coming years are expected to be reasonable. There is little labour turnover, so that little demand arises from the departure of people. Although people with this educational background can work in only a limited number of occupations and business sectors, there are enough switching opportunities to ensure that employment is not dependent on a single occupation or sector.

586 Higher Vocational Education, Fine Arts

Despite the very high current unemployment among school-leavers from this type of education, the expected labour market prospects can be characterized as moderate, because many new jobs will be created in the coming years. Although people with this educational background are fairly dependent on a number of typical artistic professions, they have some opportunities of switching, for example to teaching in Secondary Education.

591-594 Higher Vocational Education Police, Fire and Defense Forces

The labour market prospects for 'Higher Vocational Education Police, Fire and Defense Forces' for the next few years are reasonable. The demand for new entrants with this educational background is low, mainly because few of those who leave the labour market on retirement will be replaced. Workers with this educational background are very dependent on a specific employer: the government.

6 UNIVERSITY EDUCATION

606 University Education, Teacher training

The expected labour market prospects for 'University Education, Teacher training' are reasonable. However few new jobs are being created, so that the demand for new entrants arises mainly from the exit of workers with this educational background. A number of those working with this educational background do so outside of the education system. Employment is nevertheless very dependent on the education system, and the prospects within that system are worse than they are outside the system. Moreover, the labour market prospects of the various kinds of teachers differ markedly.

611 University Education, Arts

The large numbers of students entering 'University Education, Arts' mean that the expected labour market prospects for the next few years are bad. Moreover, the employment level is very dependent on jobs in Secondary Education.

616 University Education, Theology

Because many people with University Education in 'Theology' will retire over the coming years and there are only a small number of students, this type of education is expected to have good labour market prospects. Employment opportunities are however largely dependent on finding a job in pastoral care.

621-629 University Education, Agriculture

Although the coming years are expected to see the emergence of many new jobs for workers with University Education in agriculture, the labour market prospects for this type of education are bad. This is due to the very high numbers of students taking the course and the small number of jobs falling vacant as older workers retire. Although the employment for this type of education is largely limited to the agricultural sector, a reasonable number of people with this education have apparently also found work in other occupations and other business sectors, such as the education system.

631 University Education, Mathematics and Natural Sciences

Many new jobs will be created for those with University Education in 'Mathematics and Natural Sciences' over the coming years, as a result of which the work prospects for this type of education are good. Although the people with this education depend for their employment on a number of specific occupations, their occupational options are reasonably wide.

636-639 University Education, Engineering

Over the coming years very many jobs are expected to be created for graduates from 'University Education, Engineering'. However, because students are showing considerable interest in this course, the

labour market prospects are only reasonable. Although those with this educational background can only find work in a limited number of occupations and business sectors, there are enough switching opportunities to ensure that employment is not dependent on a single occupation.

651 University Education, Veterinary and Medical Sciences and Dentistry

The low flows coming from the education system are the prime cause of the good labour market prospects for 'University Education, Veterinary and Medical Sciences and Dentistry' for the coming years. One drawback of these types of education, however, is that graduates are very dependent on employment in the specific profession for which they have trained, be that veterinary surgeon, doctor or dentist.

652 University Education Pharmacy

Despite high student enrolments for the university course in 'Pharmacy', the expected labour market prospects for the next few years are good. Of course, this education leaves one very dependent on a job as a pharmacist, and there are not many opportunities of switching to other occupations.

661-662 University Education, Economics, Econometrics, and Business Administration

In recent years many students have studied 'University Education, Economics, Econometrics, and Business Administration', and few of the existing jobs for people with this education fall vacant. However, because the next few years are expected to see the creation of very many new jobs for people with this education, the labour market prospects are reasonable. Although those with this educational background have only a limited number of occupations and business sectors in which they can find work, there are enough switching opportunities to ensure that employment is not dependent on a single occupation.

666 University Education, Law and Public Administration

The labour market prospects for 'University Education, Law and Public Administration' for the coming years are moderate: a lot of new jobs will be created, but only a very few lawyers and public administrators will leave the labour market, and, most important, there is a high flow of graduates entering the market. Although many of these people are dependent for employment on occupations such as legal practice or as judges, a reasonable number also find work outside of these specific legal occupations.

671 University Education, Social Sciences

Over the next few years many new jobs will be created for university graduates in Social Sciences, but there is little demand for new entrants to replace people leaving the labour market, for example because of retirement. Students' interest in this education is also high, so that the labour market prospects are expected to be only moderate. Although those with this educational background find work in only a limited number of occupations and business sectors, there are enough switching opportunities to ensure that employment is not dependent on a single occupation.

686 University Education, Fine Arts

Although the coming years will see the creation of very many new jobs for graduates of 'University Education, Fine Arts', the numbers of students coming from the universities are so large that the expected labour market prospects are bad. However it appears that, although this course trains students for fairly specific occupations, a reasonable number of them are able to find work in other occupations.

Source: ROA